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ABSTRACT

This catalog profiles 98 exemplary programs developed by New York City independent and public school teachers for use in elementary and secondary schools. An introduction presents a brief overview of the IMPACT II project, which provides grants and workshops for teachers interested in implementing the exemplary programs developed by their colleagues. The profiles are then organized by subject area, and then subdivided by grade level. Full information is given for contacting the developer teachers and obtaining more information about the described programs. Subject areas include art, bilingual education, communication arts, computer education, foreign languages, health education, home economics, mathematics, music, physical education, science, and social studies. (KH)

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IMPACT II Catalog of Teacher-Developed Programs, 1983-84

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[January 1984]

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Message from the Chancellor

As education's fiscal resources are slowly eroded by inflation, local budget cuts, and the shrinking availability of federal money, educators across the country are being forced to reevaluate the true wealth of the educational system. What we find is just cause for optimism. Our most valuable assets are not measurable in dollars and cents, but rather in terms of human ability. The creative strength of our teachers, their remarkable resilience in the face of massive cutbacks, and their need to foster excellence despite funding limitations are the real capital in the educational bank.

To keep this capital growing—drawing interest so to speak—talent must be recognized, singled out, and rewarded. People must be given room to develop their creativity so they can make a unique contribution. Special people need to be provided with funds for special programs . . . before their enthusiasm is gone.

Because of its unparalleled ability to inspire personal endeavor, IMPACT II has become extremely important to the New York City public schools. IMPACT II grants afford us the opportunity to say to a teacher, "You have a spark! You have the capacity to do something remarkable. Here is a program that will give you the means and support to get started." The educational bureaucracy tends to box people, put reins on their creativity. IMPACT II grants inject vitality and expansiveness into a teacher's vision.

Fascinatingly, the more teachers become involved in IMPACT II, the more other teachers want to become involved. Magic is contagious. The fact that IMPACT II developers and replicators are asked to share their experiences and support others in developing their own programs has created a rapidly growing network of teachers who are aggressively pursuing funding to disseminate and adapt program ideas. New York City teachers have clearly demonstrated that, given the means to accomplish, they would rather be challenged than stagnant.

Anthony Alvarado

Anthony J. Alvarado
Chancellor
New York City Board of Education

Foreword

Since its inception in 1979, IMPACT II has supported the dissemination of innovative programs developed by teachers and has assisted other teachers in adapting these programs. IMPACT II has created a teacher-to-teacher network, now thousands of teachers strong, that facilitates grass-roots staff development throughout the school system.

With the introduction of computer education in the schools, it is critical that all students, regardless of their economic or cultural backgrounds, have access to this newest advancement in education. Traditionally, it is the role of our schools to close the gap between the "haves" and the "have nots." Therefore, it is incumbent upon us as educators to provide computer instruction and ensure equity for those who would not have the opportunity to otherwise enter this world of the future.

Recognizing the great need teachers have for programs using computers in the classroom, 11 such programs were awarded IMPACT II developer grants for the 1983-84 school year. The Division of Curriculum and Instruction will look to the IMPACT II network for ways in which to disseminate these programs to classrooms throughout the boroughs, in all neighborhoods. In turn, the Division will continue to take an active role in disseminating materials prepared by IMPACT II teachers and in providing a forum for IMPACT II teachers to present their programs to other teachers and administrators.

We look forward to the continued growth of IMPACT II and to discovering more ways in which the outstanding teachers involved in its network can work together to better the education of all our students.

Charlotte Frank
Executive Director
Division of Curriculum
and Instruction

Acknowledgments

The IMPACT II Catalog of Teacher-Developed Programs, 1983-84 was prepared as a project of the Division of Curriculum and Instruction and the IMPACT II Independent Schools Program.

Grateful appreciation is extended to all of the teachers who wrote their own profiles of the programs that appear in this publication. This catalog could not have come into existence without their expertise and cooperation.

Ellen Dempsey, Director, supervised the publication. Ellen Meyers, Director of Communications, served as editor-in-chief and coordinated its production. Deidre Meyerson, Assistant Director, provided editorial and research assistance. Marie Bobetsky, consultant, provided editorial assistance. Andrea Marquez, designer, directed all graphic work.

Introduction

IMPACT II was created in 1979 to enable New York City public school teachers to learn about successful classroom programs from one another. IMPACT II is based on the belief that many successful programs begin in the classroom, and that a most effective method for disseminating them is through teacher-to-teacher interaction. With the publication of the **IMPACT II Catalog of Teacher-Developed Programs, 1983-84**, teachers throughout the city—working in both public and independent schools—will have the opportunity "to take an idea and go creative."

How to Use the Catalog

This catalog is a collection of profiles describing 98 exemplary programs, selected on the basis of criteria developed by a review committee composed of teachers. The profiles are organized by subject area, then subdivided by grade level. However, adaptation often takes place across grade levels, and program ideas may easily be adapted to any grade level. The names of the developer teachers, each of whom received a developer grant, are listed at the end of the profiles, together with the school address and telephone number and the principal's name. Please feel free to contact the developer teacher directly. Assistance is also available from the IMPACT II office, as is staff consultation.

IMPACT II Services

- **Adaptor Grants.** If you are interested in adapting one of the programs that appear in this catalog, you are eligible to apply for an adaptor grant of $200.00. Request an application from the IMPACT II office. The application period closes mid-March. Some teachers adapt programs without applying for grants. If you have already received an IMPACT II grant, you are welcome to informally adapt additional programs.
- **Interschool Visits.** If you are interested in getting a firsthand look at a program, or if you are interested in inviting a developer teacher to your school to help you get started on adapting his or her program, staff can arrange for an interschool visit. This service is available to formal or informal adaptors.
- **Workshops.** IMPACT II coordinates workshops every fall highlighting developer programs. In addition, developer teachers present workshops at conferences throughout the year, and the IMPACT II staff will coordinate workshops upon request.
- **Take an Idea and Go Creative.** A television series that highlights developer programs is aired on WNET/THIRTEEN and WNYE/Channel 25. These videotapes, as well as others, are also available to schools upon request. They are ideal for faculty conferences and may be borrowed for up to two weeks. A flyer describing each of the videotapes, together with ordering instructions, is available from the IMPACT II office.
- **"IMPACT II Star" and Other Materials.** The "IMPACT II Star" is a quarterly newsletter that keeps teachers posted about IMPACT II activities. It provides news about developer and adaptor programs and the teachers involved in the network. Contact the IMPACT II office for a complimentary copy. When there is a demand for more information about a program, IMPACT II, together with the developer teacher, will produce an instructional manual.

Public School—Independent School Exchange

The **IMPACT II Catalog of Teacher-Developed Programs** contains profiles of programs developed by independent school teachers as well as public school teachers, and both groups are invited to cross-adapt programs and materials, and to use IMPACT II services.

IMPACT II National

IMPACT II is now in its second year in the Houston, Texas public schools. This past fall, the Chapel Hill-Carrboro, North Carolina school system implemented an IMPACT II program. The parochial high schools in Brooklyn and Queens participate in a program based on the IMPACT II model. Requests for more information about IMPACT II have been received from school systems and educational organizations across the country. Many are now working with us to adapt their own IMPACT II programs.

Please feel free to contact:

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IMPACT II, Independent Schools Program, Suite 1700, 111 Broadway, New York, New York 10006 (587-9711)

Ellen Dempsey
Director, IMPACT II

Impact II Teacher-Developed Programs

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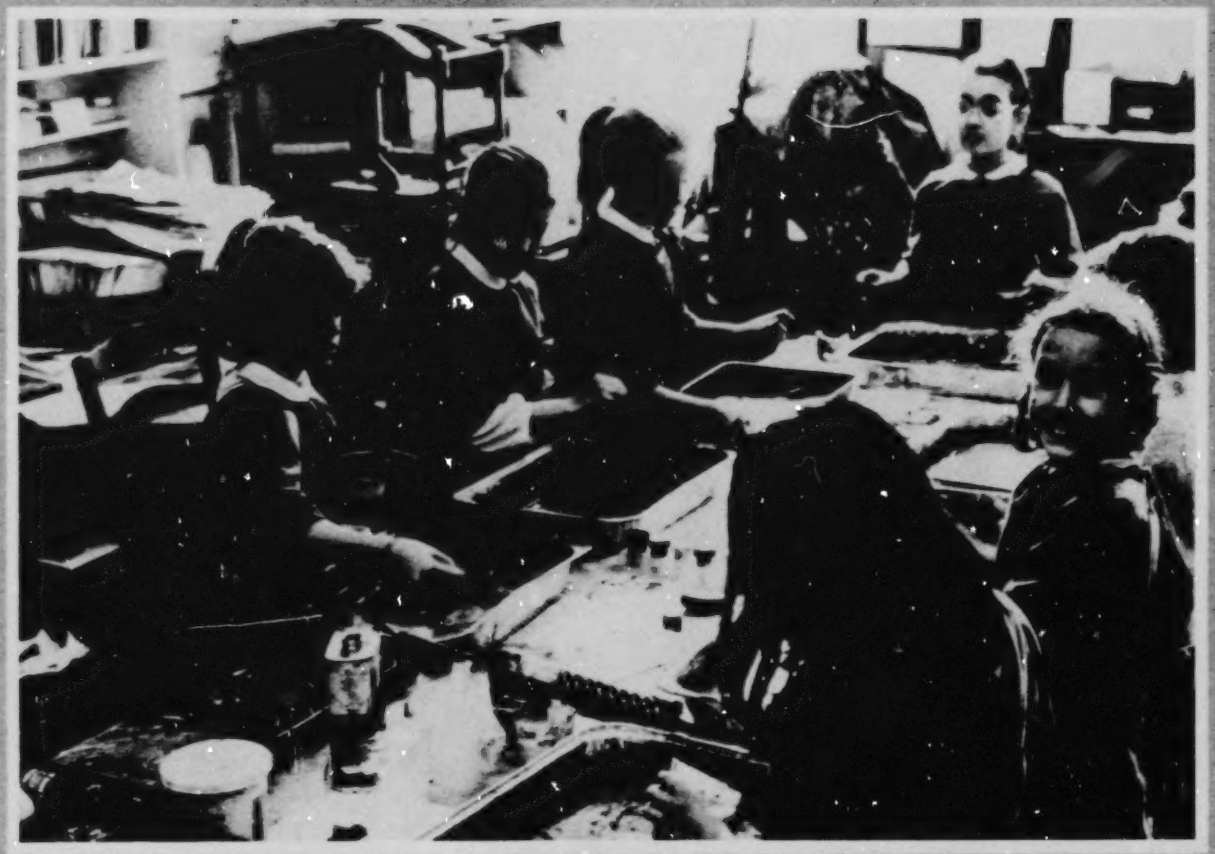
Art



Katharine Kleber

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Elementary School Art/Social Studies

From Fleece to Fabric

The Program

From Fleece to Fabric demonstrates how natural fibers are transformed into fabric, and provides students with the skills needed to make that transformation. This interdisciplinary program not only introduces children to a hands-on experience but also allows them to investigate how these skills have been perfected—by Colonial Americans and by people from other cultures such as Peruvian, Guatemalan, Turkish and Navajo. In addition to those related to social studies, art, and aesthetics, many other important skills are addressed including sequencing, problem solving, basic mathematics, measuring, and the art of mutual cooperation.

The program begins with a trip to the farm at the Queens Zoo, where the students help in shearing the sheep. They also make a trip to the Richmondtown Restoration, where they witness the fleece-to-fabric process in its entirety. Upon returning to the school, they can begin to pursue the various tasks: carding, spinning, dyeing, weaving. All of the procedures are written up on experience charts, and each child keeps an individual log. While the art skills are being taught, the students study the crafts of other nations. This study can be supplemented by trips to the Museum of the American Indian and the Center for Inter-American Relations.

The Students

In 1978, as a specialist in visual art, the developer of this program was involved with several hundred students, from kindergarten through sixth grade. The content of the curriculum varies with the age level of the children. Currently the program is being implemented with children from kindergarten to third grade.

The Staff

Leslie R. Alexander has taught in the New York City public schools since 1970, as well as in several day care centers and special art programs. She has an extensive crafts background and has run numerous craft workshops. This program can be done solo, with parent volunteers as assistants. It can be implemented without support.

Materials and Facilities

Needed is a small area of a classroom, to be used as the *Fleece to Fabric* center, that includes books,* examples of weaving, photographs, children's work, and experience charts. There are simpler and/or alternative ways of implementing the program.

Outside Resources

Outside resources include the children's farm at the Queens Zoo, the Richmondtown Restoration, the Center for Inter-American Relations, the Museum of Natural History, the Museum of the American Indian, and special exhibitions.

Overall Value

This program provides children with an opportunity to follow a project through many intricate steps from start to finish. It instills cooperation as it provides curriculum enhancement and an appreciation of the aesthetics involved. "Being able to witness a process from beginning to end gives children a sense of task completion, and a feeling for the importance of the individual steps that are involved in reaching a goal," believes developer Alexander.

*(*The Weaving, Spinning, and Dyeing Book* by Rachel Brown, Knopf, NY 1978, and *Step-by-Step Spinning and Dyeing* by Eunice Svinicki, Golden Press, Racine, WI 1974)

Leslie Alexander

More Information

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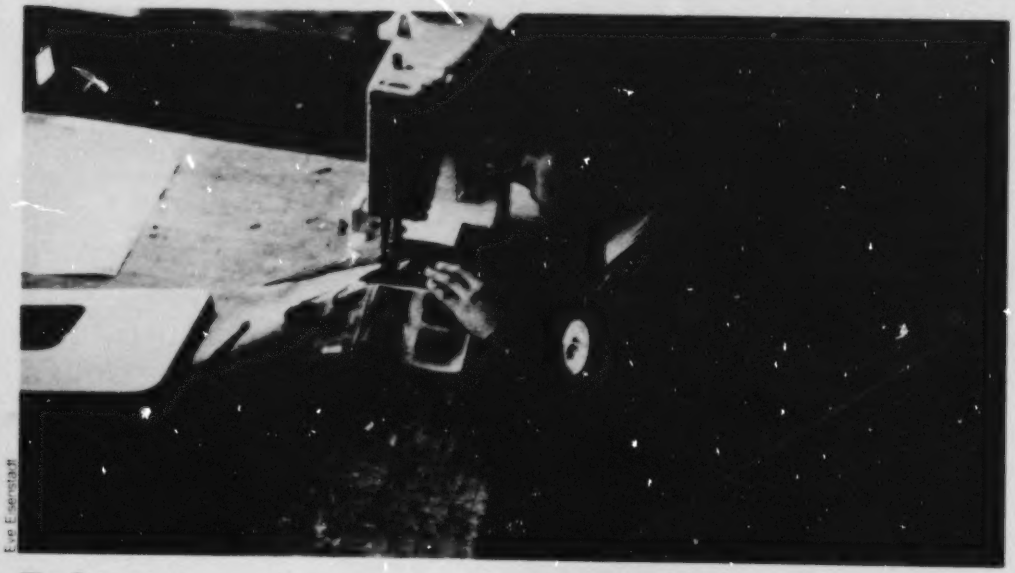

Eve Eisenstadt

Elementary School Art

Quilt Making

The Program

Quilt Making combines art and another subject such as American history. Students learn about traditional quilts as well as about design and pattern. They look at several quilts and decide on a theme for their own. Examples are the school, animals, the city. Students learn to work cooperatively towards a common larger goal. Each student contributes one 8" × 8" square. Students learn to appliqué and use the sewing machine. They also become aware that what they design must relate to the other squares. They look at slides and at various books on quilt making, such as E.P. Dutton's calendars on quilt making and publications from the American Museum of Folk Art. Once a theme is picked, books relevant to it are found and studied.

The Students

Students meet for one semester, twice a week, for 40 minutes each time. These are fifth graders, divided into two class groups of 11 each. The program can be made technically easier or more difficult, depending on the students. For younger children, fabric crayons work well, and each square is drawn. The number of sewing machines will determine whether more or fewer children may participate.

The Staff

Eve Eisenstadt, who started the program, has had ten years of teaching experience, five on the college level and five at the kindergarten to grade twelve level. She has received several grants and awards through the college where she previously taught. Eisenstadt has a B.F.A. from the University of Michigan, an M.F.A from Cranbrook Art Academy, and an M.A. from Teachers College, Columbia University, where she is currently working on her Ed.D.

Materials and Facilities

Materials needed are a sewing machine, felt and cloth, stuffing, and books on quilts and on the selected theme.

Outside Resources

If possible, viewing the quilts at the American Museum of Folk Art would be helpful to the students in the program.

Overall Value

"Students learn to work cooperatively towards a single end," says developer Eisenstadt. "They learn to apply a theme and to develop a sense of an American tradition, the quilt, as an artistic and social venture. In addition, they develop visual skills and techniques such as sewing."

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Elementary School Art/Science

P is for Paper

More Information
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Headmistress:
Mrs. Edward McMenamin

The Program

In *P is for Paper*, students integrate knowledge from science, art, and library classes to formulate an understanding of the structure, history, and uses of paper. Led by the lower school science teacher, they analyze the basic structure of paper, collect plant fibers, and make their own paper. The librarian introduces the history of papermaking, along with the related arts of printing and bookbinding, discussing the qualities of paper chosen for covers, end papers, and bindings. In studio, the children compare papers of various weights, textures, and colors, and are encouraged by the art teacher to explore and collect paper samples that are both practical and decorative in nature. Later, they design and print their own title pages and covers, and assemble simple books into which they mount their handmade paper, the collection of samples, their own marbleized end papers, and other related materials describing their papermaking project. Although the book in a sense is the culmination of their work, children at this age level are less interested in "finished products" than they are in processes. Therefore, the hall bulletin board is utilized to present a continuing visual diary of the work as it progresses. The making of paper; taking a field trip to a book arts press where they may be able to watch part of their title page being printed; setting metal type themselves in a composing stick back in the library; creating their own artwork; and looking for plant fibers and paper samples—these are experiences that help sustain the children's interest and activities that provide material for a growing display that keeps the children personally involved.

The Students

The program involved 35 girls in Class III at the Nightingale-Bamford School last year. The class was divided in half, with each half meeting once weekly for library, twice weekly for science, and three times weekly for studio. The program could be expanded or simplified for use by any size group or age level, and the potential breadth of the subject, along with the opportunities for firsthand experience, makes it adaptable for almost any achievement level as well.

The Staff

Katharine Kleber, the lower school art teacher, is the developer of the program. As the recipient of two consecutive grants from the Maine State Commission on the Arts and Humanities, Kleber conducted a series of printmaking workshops for Maine high school students. Michael Mahoney, the lower school's science teacher who holds a Master's degree in Environmental Education and has led several workshops for teachers in the past, initiated the program idea and shares in its implementation. The lower school librarian, Sharyl Smith, who meets with the children once weekly, is a doctoral candidate in the Columbia University School of Library Service and has published articles on children's literature. The program has received the full support of the school administration. Although it originally involved the skills of three teachers, it could be simplified and implemented by a single teacher in only one classroom.

Materials and Facilities

P is for Paper requires a classroom which has available water and a bulletin board. Most of the materials used are commonly found; but a blender is needed to make paper, along with a mould and deckle (which may be a simple wooden frame with screening). There is a variety of literature on the related subjects of paper, books, and printing. A good reference to begin with is Susan Bartlett's *Books: A Book to Begin On* (New York: Holt, Rinehart & Winston, 1968). If a projector is at hand, rental of the film "Handmade Paper" will stimulate interest.

Outside Resources

Books on papermaking may be purchased or borrowed from the public library. Should the program evolve in the direction of bookmaking and printing, books are available in that area as well. And a field trip to one of the private book arts presses in New York is invaluable. Bowne & Co., Stationers, a re-creation of a 19th-century printshop, is located at the South Street Seaport Museum and is open to the public.

Overall Value

Says developer Kleber: "Separate subject areas become interrelated in this program, with the presentation of factual, objective knowledge balanced by personal involvement through exploration and self-expression." Students enlarge their perception of paper and books, so that it is only one step further to the realization that a book can be a collection of paper samples or a collection of ideas.

Elementary School Art

Myths Through Painting

The Program

In *Myths Through Painting*, the students explore various types of myths and create a series of paintings. The teacher reads aloud or tells a myth. The mythology of a variety of differing cultures can be explored and read: Greek, Roman, Norse, Egyptian, Indian, North and South American; or a concentration on one culture can be maintained. The myths of Pandora and of Persephone are examples of Greek mythology. The myths of Baldur and of Thor are examples of Norse mythology. At the end of the reading, the myth is discussed. Characters' names, events that occurred, and other elements are reviewed. The students then paint whatever they imagined or experienced.

The Students

This year, a mixed-age group of first-through-fourth-grade students participated in the program —which can be adapted easily to any of these grade levels, and can accommodate a wide range of ability among the students. Class size of 10 to 15 students is best. Class sessions are held weekly.

The Staff

The program was developed and implemented by Jane Lester. Lester has seven years of teaching experience in elementary and preschool grades. The program has support from the administration and can be conducted without an assistant.

Materials and Facilities

The teacher needs books of myths (illustrated and non-illustrated), paint (tempera and watercolor), paintbrushes, and painting paper. The best children's books of mythology are: D'Aulaire's *Greek Mythology* and *Norse Mythology* (Doubleday). The teacher also needs access to a sink.

Outside Resources

Trips to museums that have exhibits on mythology would enhance students' interest. For example, the Museum of Natural History exhibit "Star Gods" is a resource that stirs the imagination. The public library has exhibits and books available.

Overall Value

"Children love the power of gods and heroes, and the excitement of creatures, giants, and monsters," says program developer Lester. "The drama and emotion in mythology delight children!" The paintings which the children create bring to life this spirited world. The children learn about and develop an appreciation for this type of literature, which occurs in a timeless past and explains the wonders of nature (creation of the world and the seasons).

More Information

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Bongsoon Zubay

Elementary School Art

Printing for Pennies

More Information

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Principal: Lucille DiBiase

The Program

Printing for Pennies introduces elementary school children to as many varied printing techniques as possible, while keeping the cost and sophistication level of the program well within their range. Children concentrate on developing a design for each project that builds upon the printing techniques of the preceding project, and children are able developmentally to see how their techniques are increasing in sophistication. The program begins with press prints; children find objects and print them in an overall design. They move on to transfer prints, in which phase they have the opportunity to study pattern and then transfer that pattern to paper. Potato printing is based on the same design principle as press or transfer printing, except that children now have to create the printing stamp themselves, instead of finding it ready-made. Children also create their own printing object with stencil prints, and are able to explore the concepts of positive and negative prints. This part of the program culminates with assembled prints that are made by using many found and arranged objects such as clips, pins, rubber markers, and textured cardboard. The rest of the unit is devoted to relief and line printing. Each technique is introduced separately; then many projects are undertaken in which a design is printed as both a relief and a line print. A complete list of materials used in the program is available. Children supplied most of the materials needed and showed a great deal of creativity in looking for possible materials and methods for new projects. For example, after potato printing, children suggested using other foods, then produced a printed fruit and vegetable mural. A very helpful bibliography of source books and magazines has been developed so that classroom teachers can easily implement the program.

The Students

The program has been in operation for the past year, and is used with the fourth and fifth grades, including children of varying academic levels. It could easily be adapted for third grade, or extended for sixth grade. Classes meet once a week, and groups consist of 25 to 30 students.

The Staff

Lucille Vaz, art teacher for kindergarten through sixth grade, developed the program with full administrative support. She has taught at the school for the past 15 years, and has been in charge of the art program for the past two years. A number of students in the art program have developed award-winning projects over the past two years.

Materials and Facilities

Average-size classrooms were utilized for the projects. A self-contained art room would be ideal, to afford maximum storage and clean-up space. However, careful planning and the cooperation of classroom teachers make each project run smoothly. Beyond the expenditure for brayers and printer's ink, most of the materials for the program are supplied by the students. Paints, brushes, papers, and clay should be readily available from general school supplies. The teacher gives children lists of what they will need for each project, and they show a great deal of originality in obtaining the necessary supplies.

Outside Resources

No field trips were made this year, but consideration is being given to visiting the print department at the Metropolitan Museum of Art for next year's program.

Overall Value

For most of the students, printing is an entirely new art medium. Children are surrounded by such printed matter as film, theater and art prints and posters and yet many of them have never explored the process of printing a picture or design. Accustomed to producing one work of art at a time, children are fascinated by the idea of multiple outcomes of one picture or design. They quickly begin to experiment with color, arrangement, density, and paper texture. Critical judgment is developed as they study their prints and decide how to vary succeeding prints. Says developer Vaz, "Because the program keeps expenditure and technical skill at a minimum, it is rewarding and successful for all involved—students, staff, and administration."

Jose Gomez

The Program

Life Drawing for Adolescents is a program which utilizes a variety of techniques and approaches to drawing, expanding students' awareness of drawing skills, and challenging their abilities for self-expression. Adolescents find drawing self-conscious and personal; they are intimidated by the world they seek to imitate in their drawing. Students can learn to draw if their visual perceptions are heightened and they are taught to really look at what they are drawing. Drawing becomes an extension of seeing, as well as a useful device for self-expression, if students are open-minded to approaches that may at first seem uncomfortable. Students begin with quick gesture drawings. These are followed by blind contour drawings. A blind contour is a continuous line drawing where one looks at the object being drawn and not the paper, never picking up the pencil. Contour drawing is frustrating but is a helpful drawing technique in teaching people to really look at what they are drawing. Blind contours are followed by modified contours, meaning one can look at the paper occasionally, still drawing in one continuous line and focusing on the subject being drawn. Ink drawings follow, using Q-tips, cardboard strips, toothbrushes, and other unorthodox drawing materials to draw guest models. Pastel and charcoal drawings of school pets such as frogs and guinea pigs are followed by watercolor renderings of objects that have been blown up to at least three times their actual sizes, reminiscent of Georgia O'Keefe.

The Students

The program has been used for two years in the seventh and eighth grades at Manhattan Country School. The semester-long class meets once a week for an hour. There is wide range in ability among the students, from gifted to average artistic ability. The class could easily be adapted to the high school level and expanded to a year-long program by further developing students' skills, allowing for more time with each material, and modifying drawing techniques.

The Staff

The class was developed by Diane Cherr, who has a Master's degree in art and education from Teachers College, Columbia University, and has taught at Manhattan Country School for three years. The members of the administration, who have enthusiastically supported the program, have also posed as guest models.

Meredith Brooke Carey

Materials and Facilities

Each student keeps a portfolio of his or her work. Students are advised to indicate the date and length of the pose of each drawing, as a method of self-evaluation. The program is taught in the art room, using table and wall space for drawing. If weather permits, classes could be conducted outdoors. The program can be implemented on a low budget, using only paper and pencil for all exercises.

Outside Resources

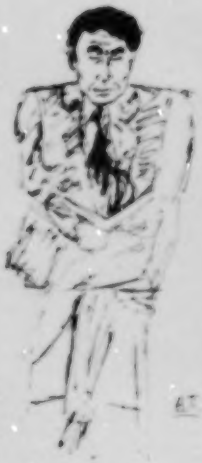
Master drawings from available art texts are used for reference. Field trips to relevant exhibits in the city can be arranged. Betty Edwards' *Drawing on the Right Side of the Brain* (Los Angeles, 1979), is essential. Optional texts that are helpful include: Berger, John. *Ways of Seeing* (New York, 1979); Franck, Frederick. *The Zen of Seeing* (New York, 1973); and Nicolaides, Kimon. *The Natural Way to Draw* (Boston, 1975).

Overall Value

This program fosters and reinforces confidence in students' abilities to draw in an uninhibited, relaxed manner. Though adolescents find drawing extremely self-conscious and personal at first, they are able to move towards examining themselves and others with less focus on preconceived notions of physical attractiveness. "We encourage exploration and experimentation," says developer Cherr, "giving students the tools through which they may overcome frustrations, become comfortable, and validate new means of self-expression."

Junior High School Art

Life Drawing for Adolescents



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High School Art

Learning English Through Calligraphy

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Principal: Grace M. Rosa

The Program

Learning English Through Calligraphy is a program that helps non-English speaking students to speak better English by improving their vocabulary, phraseology, and sentence structure. This is done in the context of mastering the art of beautiful writing. The program includes familiarity with different alphabet designs, such as upper and lower case block letters and the Renaissance chancery cursive, which improves reading recognition while reinforcing the ability to write and understand many more words and their meanings. After working in pencil and with upper and lower case letters, the students are shown how to hold the special pen nib (CO one, manufactured by Hunt/Speedball Co.) at a 45° angle. The letters are not taught in alphabetical sequence but in terms of strokes, from easy to hard. First the vertical, horizontal, and diagonal, and finally the curved letters, are taught by teacher demonstration. As each group of letters is introduced, the students are encouraged to form words using the letters studied. Two dictionaries—the Webster's *New World Dictionary of the American Language* and the Thorndike-Barnhart *Intermediate Dictionary*, both suitable for junior high school level, are available. The class list of new words is kept on large sheets, clipped together, in the front of the room. The teacher has developed illustrative materials which are on display around the room, together with individualized worksheets, alphabets, and testing sheets. The work is covered in two and one-half months.

The Students

The foreign-born students are in a regular, heterogeneous, required art class. They are 15 to 19 years of age. There are about 20 students in three classs, each term. They come from Cambodia, Vietnam, Korea, Russia, and Yugoslavia. The group size depends on how much time the teacher has available for circulating and giving individual help.

The Staff

Gertrude R. Gabel has taught art for 24 years, and initially developed the program as an outgrowth of an assignment to the students to write a little story about themselves. The principal and chairperson lend their endorsement and support.

Materials and Facilities

The program can be conducted in any room with desks and chairs, and can be taught by one teacher. Facilities for duplicating are necessary for illustrative and testing materials. The items needed are lined paper, CO one and LEFTY CO nibs—available in any art supply store——pen holders, black India ink, pencils, erasers, rulers, 45° angles, and folders.

Outside Resources

No outside resources are required. However, developer Gabel has a file of xerox copies of many decorative alphabets. In addition, there are reference books such as *Calligraphic Lettering*, Third Edition, by Ralph Douglass (Watson-Guptill, 1967). Children enjoy looking at these books.

Overall Value

"It is a highly personal and satisfying experience," says developer Gabel. "It requires patience, carefulness, and discipline. The results are attractive and in good English. Calligraphy is a skill that develops observation and perception in recognizing different styles of writing. There is a carryover in improved regular writing. The students seem more comfortable with expressing themselves in English. The results are impressive and appealing enough to have other teachers consider this approach."

Junior High School
Bilingual Education

Caption New York

Elizabeth G. Barnwell

The Program

Caption New York uses a photographic essay of New York as a means of increasing students' ability to understand, to read, and to write English. The students divide Manhattan into sections and plan photographic excursions into these sections. They photograph landmarks, street scenes, municipal buildings, cultural sites, and people. When the photographs are developed, the students analyze and criticize the pictures, and separate them into categories such as historical, cultural, and human interest. The students select the best pictures, write captions for them, and lay out their master class album. Reproduced copies of the album are distributed to the students in the project.

The Students

There are 24 students in an average seventh-grade bilingual class, who meet seven times a week with their official teacher. The program can be used with students from the fifth grade through high school. Because of the crowds in Manhattan, it is suggested that no more than 30 students be involved, and that two adults accompany them.

The Staff

Caption New York was conceived by Judith Diaz and her class. It was implemented with the assistance of James Byrne, teacher of English as a Second Language (ESL), and Elizabeth Barnwell, librarian. All three teachers gave the students basic photography tips. The principal and the administration gave full support and cooperation.

Materials and Facilities

There were on hand about eight cameras available to students. Each group of three students had a camera. Each student was allowed to take 12 pictures a trip. The bilingual department paid for the film and the photo album. The album was reproduced in the district office and collated by the students.

Outside Resources

Outside resources could include all of Manhattan—the Battery and Wall Street, the East River, midtown, the Central Park Zoo, the Metropolitan Museum of Art.

Overall Value

Developer Diaz notes: "There is a certain magic in introducing students to New York for the first time. As each package of prints came back from the developer, one could feel the students' joy when their photographs turned out well. Laying out the pictures and captioning them with just the right words were the students' most difficult and rewarding tasks. Praise from their peers and praise from the school and district administration made them walk proudly."

More Information

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Principal:
Donald R. Tippitt

Communication Arts

Walter Frechman

Elementary School
Communication Arts/
Social Studies

Exploring the City

The Program

Exploring the City is a program that broadens the student's understanding of New York City by focusing on its cultural resources. It provides an outlet for expression through creative writing, drama, music, and art activities. Two second-grade teachers have developed this program as an outgrowth of the grade two social studies curriculum. The study of New York City has been expanded to include in-depth experiencing of cultural events. Trips, guest speakers, and resource materials provide motivation for the production of journals, articles, plays, and art products.

The Students

Two second-grade classes participated in the program this year. These second-grade children were below average in achievement. The program was infused into regular classroom activities on a daily basis.

The Staff

Adele Armstrong and Wilma Knight developed *Exploring the City*. Both teachers have strong early childhood backgrounds and a commitment to providing cultural experiences for children. Knight has successfully written and implemented a grant that fostered parent participation in the academic program, and has held the teacher-of-the-year title. Armstrong was involved in an experimental early childhood program that was later presented at Pace College—"Participation in Summer Cultural Programs for Young Children." Both teachers have developed publications within the social studies curriculum area, and have served as resource teachers for children, teachers, and parents. This program can be implemented by other classroom teachers in most school settings.

Materials and Facilities

This program functions within the normal classroom setting and is also involved with the school library publication center, and with the city as a resource for trips. Resource materials include books, films, and records; e.g., Kate, M. "The Just Community Concept."; Rokeach, Milton. *Beliefs, Attitudes and Values*. San Francisco, CA; Shaftel, Fannie, and Shaftel, George. *Role Playing for Social Values: Decision Making in Social Studies*. Englewood, NJ.

Outside Resources

Trips have included theaters, the City Center, the Alvin Ailey Dance Company, the Westbury Music Fair, the Theater in the Park, and the Queens Museum. Guest performers and speakers have provided inspiration in opera and orchestration.

Overall Value

"This program has provided motivational experiences by exposing children to the richness of the city in which they live," say developers Armstrong and Knight. "Children have had opportunities for self-expression and have learned to feel good about themselves and their city."

More Information

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St. Albans, NY 11412
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Principal: Ethel D. Mitchell

The Program

Safari—Journey to Good Writing uses an editorial board of fifth-grade students to edit and publish *Safari*, a journal of children's writing gathered from grades one through five. The board meets once a week to select the best works from the poems, stories, and other classroom assignments submitted to them.

Led by two teachers, board members judge writing for both content and clarity. Materials are read aloud by board members, discussed, and voted upon. Selections chosen are then carefully proofread. At the end of each semester, materials are mimeographed and collated. A copy of the completed journal is given to each student and teacher in the lower school, and "extras" are given to prospective students when they come to visit Hewitt.

The Students

The program involves an average of 25 fifth graders each year. The majority of students are of average ability and achievement level. This program can be, and has been, used with larger and smaller groups of varying ability. It can be used in grades five, six, or seven.

The Staff

Elsie Hunt and Anna Delson, who teach grade five, have developed this program over the past eight years. Both Hunt and Delson have graduate degrees in English and taught that subject in high school before coming to Hewitt. They have given joint workshops on developmental writing at Association of Teachers in Independent Schools spring conferences for the past two years. Staff support has been invaluable to the program for typing and mimeographing. Collating has been done by the children. Last year, however, the final journal was produced by an offset printer.

Materials and Facilities

Any regular classroom is fine for the editorial work. If the journal is to be produced in-house, use of the mimeograph machine and paper supplies are necessary.

Outside Resources

No outside resources are necessary.

Overall Value

Through learning and practicing critical skills, the student editors gain the knowledge and motivation to improve their own written work. They develop appreciation for the written word. They approach reading assignments with a keener and more analytical eye; and, say developers Delson and Hunt, "the interest level is high for all the students involved because they know they will see the final product of their efforts in print. In a society where writing skills are threatened by too much television, teaching those skills in a dynamic way assumes progressively greater importance."

Anna Delson

Elementary School Communication Arts

Safari—Journey to Good Writing

More Information

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Agathe K. Crozier

Elementary School
Communication Arts

Reading Through Photography

Walter Friedman

More Information

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The Program

Reading Through Photography is an eclectic method of teaching reading. Photographs of an event such as a Christmas program in the auditorium or a field trip to the Bronx Botanical Garden, or even a Halloween party, enhance the value of that event since the images provide a concrete reminder to which children can attach emotional significance. The physical nature of the photographs can be manipulated to sequence an event into a story. Words identified with the pictures become embedded within the child's conscious memory, thereby improving reading by associating it to actual experience. The verbal chronology of an event, based on photographs, can be recorded on a cassette recorder and played back, thus promoting language development. Every child is taught the use of the fixed-focus Polaroid camera, and examples of composition and center-of-interest of photographs are illustrated by teacher-produced pictures. Documentation of an event revolves around three groups, each composed of two children. And although cooperation between the two children in a group is stressed, each group is essentially independent. Groups photograph their event, based on personal interests and interpretations. After the event or trip, the pictures are displayed on a bulletin board and sequenced by the documentarians.

The whole class has the opportunity to view the exhibits and act as constructive editors and critics. An experience chart is written by the whole class, based on viewing the three photographic documents. And finally, a condensed written story emerges as the photographs are combined to create a cohesive chronicle. Comparisons of this new experience chart and the recorded tapes are made, and discussions take place during which all children are encouraged to speak. Using the pictures and prior discussion, stress is reinforced on various words such as "exciting," "interesting," "enjoyable."

The Students

Reading Through Photography is designed primarily for kindergarten through third grade. The greatest value will be for younger children whose reading progress is slow; who lack the necessary prereading experiences provided by stimuli such as toys, trips, and adult role models; who have low positive self-images; and whose speaking vocabularies are limited. The program can be implemented in a self-contained classroom, and is an ongoing aspect of the school year. Special education classes would also find this program to be of great benefit.

The Staff

The program was designed by Walter Friedman, an elementary school teacher for over 14 years. He holds a Master of Arts degree in audiovisual communications from New York University, and is a professional photographer who integrates the art into his teaching methodology. Friedman enjoys the cooperation and encouragement of the school principal.

Materials and Facilities

The materials for this program involve the use of three Polaroid 600-series cameras, with built-in flash. Film for these cameras includes a built-in battery to activate the flash, thereby removing the need for money for new batteries and ensuring correct exposure. Much has been written on the subject of photography in the classroom. Two helpful books are, *Teaching Your Children Photography* by Don Cyr, published by Amphato, and *Classroom Projects Using Photography, Part 1, For the Elementary School*, published by the Eastman Kodak Company. A comprehensive bibliography of articles has been accumulated by Friedman and is available to replicators.

Outside Resources

Integral to the program are trips—to the zoo, the Bronx Botanical Garden, Macy's, Central Park, the American Society for the Prevention of Cruelty to Animals (ASPCA), the public library, and the police precinct; also assembly programs and Christmas and Easter parties.

Overall Value

"The overall effect of this program will provide a significant improvement in reading and vocabulary development and a renewed interest in reading itself," developer Friedman asserts. "Language skills, that ability to express what is seen or felt, are now articulated in a more coherent manner. Also, as an offshoot, photography itself becomes a new source of interest and fun."

The Program

The dual purpose of *Self-Expression Through T-Shirt Design* is to raise the level of self-esteem of low-achieving students who regard themselves as failures, and to motivate them to review and reinforce reading skills. Students are first shown how to transfer designs from paper onto T-shirts, using such readily available materials as tracing paper, carbon paper, paper clips, heavy cardboard, and permanent ink markers. They are encouraged to develop their own designs. (As a possible option, if a microcomputer is available, students may use graphics to design and then print out their own artwork, to be transferred to T-shirts.) Students are then instructed in basic photography, and allowed to photograph each other as they participate in the successive steps required to create T-shirt designs. The photographs are then used to make a "How To" book. Small groups of students arrange the photographs sequentially, create the titles for the different sections (such as "Getting together the materials we need") and work together to write the directions for each section. Then the various versions created by different groups are compared and discussed, before the final draft is approved. Students' own graphics are used in designing the final version of the "How To" book. Students from other classes become interested after seeing the T-shirts that the students are wearing. The students involved in the project can then serve as resource persons, demonstrating the process and/or presenting their "How To" book to other classes. This greatly enhances their self-esteem, as well as their prestige with other students. Time has also been set aside each week for students, for a price, to create T-shirt designs for other students. The money they earn goes into the class treasury to pay for other class activities. T-shirt design also has been incorporated into a science ecology project, in conjunction with the Operation Explore program. This entails a three-day camping experience at an upstate YMCA-YWCA camp, and a day trip to Gateway National Wildlife Refuge. Operation Explore is a joint effort sponsored by the Board of Education, the Cornell Cooperative Extension, the YMCA-YWCA, and the U.S. National Parks Service.

The Students

This year, ten students in a fourth-grade Promotional Gates class participated in the program. In previous years, at another school, fifth and sixth graders participated in creating T-shirt designs. While it is easier to work with a small group in implementing this program, it could be done with a normal size class of 30 to 35 students.

The Staff

Gordon Gilbert is an elementary school teacher with over ten years of teaching experience. Most of his experience has been with low-achieving students. He has found many of these students to be very interested in art activities, and has capitalized on this interest in developing the T-shirt design program.

Materials and Facilities

The program can be implemented easily in most classrooms, with each student working at his/her own desk. T-shirts, permanent ink markers, paper clips, heavy cardboard, tracing paper, and carbon paper are all that one needs to create T-shirt designs. A polaroid camera and film are best for photographing the process. Large 3-ring, binder notebooks with clear see-through envelopes for holding 8-1/2" x 11" paper can be used to create the "How To" books. Paper and drawing materials, as well as templates, should be available for students to create their designs on paper prior to transferring them onto T-shirts.

Outside Resources

No outside resources are needed. However, there are T-shirt stores in New York City which could be visited by classes interested in getting ideas for designs and/or in learning more about the business aspects of selling T-shirts.

Overall Value

"This program has highly visible results—the students *wear* what they create," is developer Gilbert's comment. "It generates great interest, which can serve as the motivation for reinforcing basic reading skills. It is also very effective in raising the self-esteem of low-achieving students, and elevating their prestige among other classes in the school."

Elementary School Communication Arts/Art

Self-Expression Through T-Shirt Design

Mary Donton

More Information

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Elementary School Communication Arts

Operation T.O.W. (Theater on Wheels)

The Program

The purpose of *Operation T.O.W.* is to teach reading, language arts skills, and writing through creative drama. The students read and write plays, design and create costumes and scenery, and perform plays in various locations throughout the Metropolitan area. Themes of the plays written and performed include ethnic holidays, favorite stories, seasonal holidays, and topics from the social studies curriculum. The plays are presented in the home school's auditorium, at other neighborhood schools, at special arts festivals for handicapped youngsters, and in classrooms of multiple handicapped children. The students in the program create advertising campaigns, design posters, and use autobiographical material to write *Playbill*-type magazines for each production. They are encouraged to use their five senses to learn about their environment, as they explore feelings and ideas through role-playing and improvisation. Physicalizing provides them with a tangible form and helps them make abstract concepts concrete. The students learn good listening techniques as an audience. They become acquainted with the field of drama through research, interviews, and firsthand experiences.

The Students:

Two Health Conservation-10 classes totalling 21 students participate in *Operation T.O.W.* They are of varied levels of abilities and achievement. The drama group, named the "P.S. 11 Super Stars," has been meeting twice a week for an average 45-minute session.

The Staff

This program was developed and is implemented by H.C.-10 teacher, Micki Shulman. She wrote the curriculum guide *Reading and Language Arts Through the Theater* for *Operation T.O.W.* Parent volunteers are an asset to the program, especially as trip chaperones. This program has been enthusiastically received and supported by the school staff as well as administrators at other sites in Brooklyn.

Materials and Facilities

Most activities can be conducted in the classroom, but a gymnasium or auditorium would be more suitable when performing plays for schools and senior-care facilities. This visual program is ideally suited for videotaping—which can then be used to provide the participants with feedback and for presentations as well. Recycled materials can be used for scenery and costumes, if funds are not available.

Micki Shulman

Outside Resources

No outside resources are necessary.

Overall Value

Dramatic activities provide the groundwork for cooperative group work. The children learn to work together, to empathize, and to be concerned with other people's feelings. Says developer Shulman: "Theater arts cut across cultural barriers and provide a vehicle for identification. The very art of creation provides understanding of the process that others go through in facing their own experiences. Drama gives children an opportunity to grow by giving them a sense of belonging and a chance to fulfill their need for recognition."

More Information

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Special Education Supervisor: Andrea Abrams

Junior High School Communication Arts

Instant Fame: The Publicity Project

The Program

The objective of *Instant Fame: The Publicity Project* is to provide immediate and effective recognition of student accomplishment in scholarship, competition, school and community service, significant hobbies, employment, skills development, or any other area where public attention to performance is warranted. Such recognition is awarded through a process of producing publicity in the form of press releases, posters, bulletin board displays, sound/slide shows, flyers, newsletters, and newspapers by teams of student photographers, illustrators, writers, and researchers. *The Publicity Project* sets out to accomplish its multi-level aims while serving the needs of specific student subjects. A student dog-walking service may require an illustrated poster to compete for attention on a supermarket display board; the school's hockey team might need a hall display board to racognize its efforts; a community service park cleanup can become an inspiration to future classes if it is memorialized in an exciting sound/slide show. Some valuable activities that grow organically out of this program are a "Student of the Week" display, a one-sheet student newspaper issued frequently (11 x 17 printed on both sides makes a pleasing "broadsheet" paper), illustrated resumés for student jobseekers, graphically exciting announcements, and brochures.

The outside community holds many rewards in store for students whose talents and ideas have been attractively displayed. Some examples from Lincoln Academy this year: a large department store provided a free modeling portfolio, photo sessions, and master prints to a girl who was able to produce *Publicity Project* evidence of her in-school modeling accomplishments; a local student political group was able to win front-page coverage of their activities in the *Westsider* community newspaper through skillfully written and illustrated press releases; invitations to the Manhattan Borough President's office, *Rolling Stone* magazine, and the *Midday Live* television show followed from the preparation of other press releases. A student housecleaning/office maintenance business was successfully launched through posters and photo-brochure. Dozens of students have sold unwanted personal property after the preparation of sales flyers. Finally, the display of *Publicity Project* materials graces and enlivens the school corridors—and stimulates new "business" for the writers, photographers, and artists from ambitious readers.

The Students

One hundred and ninety students from the seventh, eighth, and ninth grades are involved with the project at present. With distribution, each project takes about 10 hours of work and costs approximately $15 (e.g. $7.00 for typesetting, $5.00 for 110-line screen, $2.00 for in-house printing and $1.00 for office materials). Conception, research, writing, photography, illustration, layout, editing, production, and distribution account for the time expended.

The Staff

John Taylor Gatto, English and independent study instructor, is the entire paid staff. Gatto has teaching experience of 19 years, from grade school to graduate school lecturer at Queens College. He has published several books on literary analysis and many articles; has founded Lava Mt. Records, a Schwann-listed record company; and has won a Channel 9 "Apple Polisher" award. Documentary films have been made about his classes by WOR-TV and the Norwegian government.

Materials and Facilities

A 35mm camera and flash are essential; Polaroid and pocket camera are useful. A typewriter is also needed. Some typesetting facility would make a luxurious addition to the program, if funds permit. Access to a photocopy machine that processes black-and-white photos with clarity is absolutely necessary; if the machine can handle 11 x 17 paper, project flexibilty is greatly enhanced. A cassette tape recorder is also useful.

Outside Resources

Illustrations cut from magazines and newspapers and reproduced on adequate photocopy machines provide "swipe" files that can be used as cost-free art sources.

Overall Value

Developer Gatto says: *"The Publicity Project* works! Subjects gain money, fame, and admission to special programs—one was even apprenticed to Governor Cuomo!"

More Information

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Junior High School
Communication Arts

Poetics: An Introduction to the Analysis of Poetry

The Program

Poetics is a course designed to introduce gifted intermediate students to the world of classical poetry. Through guided reading and discussion of major works by British and American poets—Shelley, Keats, Frost and Dickinson—students sharpen comprehension skills, acquire advanced vocabulary, and gain an understanding of concepts and literary devices such as tone, voice, diction, imagery, symbolism, irony, versification, rhyme schemes, and figurative language. Student appreciation and enjoyment are crucial elements of this program, and the poems have therefore been selected to engender a love of poetry as well as to provide concrete examples for each concept. A teacher-prepared study guide, which includes detailed descriptions of terminology, the poems to be read, study questions, essay assignments, and sample tests, is available to teachers who wish to adopt the program. This guide is the foundation for student discussion of the poems.

The Students

Sixty of the eighth-grade gifted students from the junior high school's college preparatory mini-school participated this year. The course is taught twice weekly during a four-month period, as one component of a communication arts curriculum. The curriculum also includes additional literary masterpieces; creative writing (in which students write their own poetry); and a concentration on advanced vocabulary and reading comprehension skills, in preparation for high school entrance examinations. The program would be suitable for use with bright intermediate students in the ninth grade, and could be adapted for high school students of varying ability levels.

The Staff

The course was developed and is taught by Linda Greene, who coordinates the mini-school for gifted and talented students. She has taught for 13 years and holds a doctorate in curriculum and teaching from Teachers College, Columbia University. The school administration has wholeheartedly supported this program, and the district has provided a mini-grant for supplementary materials.

Materials and Facilities

The course can be taught in a regular classroom. All that is needed is the study guide, which can be reproduced on mimeograph stencils. Useful supplementary materials include filmstrips, poetry collections, and reference books such as *How to Analyze Poetry* by Christopher Russell Reaske (NY: Monarch, 1966) and *An Introduction to Literature* by Sylvan, Barnett, Berman and Burto (Boston: Little Brown and Co., 1977). You may wish to have students write research papers on poets as an extension of this project.

Outside Resources

No outside resources are necessary.

Overall Value

Developer Greene tells us "This program is a joy to teach because the students are so enthusiastic about the material. By the end of the course many students are able to write eloquent and sophisticated analyses." Student responses to a questionnaire completed after the program included comments such as "I thought it would be boring, but I enjoyed it very much," and "At first I couldn't understand poetry, but now that I know what to look for, I really enjoy it." "My favorite moment," adds Greene, "came three-quarters of the way through the course when a boy asked with amazement, 'You mean a poet has to think about *all* that when he writes a poem?' Now my students are able to think about *all* that when they read a poem!"

More Information
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The Program

Writing Institute is an enrichment, activity-oriented program that teaches the essential skills of writing through a programmed format built around talks with professional writers who have included the poet William Luvans and performing artists such as the actress Sonia Moore. The program teaches the following skills: word choice; sentence structure; paragraphing; transitions; essay, article, story, and play format; and letter writing. These skills are enhanced by units in which the students create their own plays, monologues, improvisations, interviews, poetry, contemporary humor pieces, and mystery stories. As part of their work in *Writing Institute*, students conduct interviews with senior citizens about aging, changing values, and the "generation gap"; speak with guest authors and lecturers about writing styles and techniques; present an afternoon of original drama based on their writings; correspond with journalists; and produce an original student publication. Parents, local authors, senior citizens, and the community-at-large benefit from and participate in the program.

The Students

The current program consists of three eighth-grade classes and one seventh-grade class, totaling one hundred and forty students. The program can be adapted to any junior or senior high school grade level, but is best suited to the eighth- and ninth-grade levels. It can enrich the experiences and the written work of above-average students, while motivating those who are below average to *write* on grade level and above.

The Staff

The program was developed and is implemented by Rose Reissman, as an outgrowth of her interest in improving the teaching of writing skills. After reading extensively in the field and attending several writing conferences, she consulted with various authors, journalists, playwrights, and other members of the community on ways to improve writing instruction. Their services as guest lecturers were also enlisted. Reissman has been an English teacher for 13 years, working with gifted and slow students, and has functioned also as a librarian and a social studies teacher. She is thus able to extend writing and research skills to the social studies curriculum area. The principal and assistant principal have been extremely supportive of the program. It has received favorable publicity and has been endorsed by the journalist Nat Hentoff and Harold Q. Mazur, Vice-President of the Mystery Writers of America.

Materials and Facilities

A Writing Skills Resource Center is being formed, to include professional books on writing skills plus vertical files of source materials to generate writing lessons. A set of transparencies, and lesson plans and activity sheets for replication of the program are being maintained. *Writing Institute* materials include tape recorders, ditto equipment, transparencies, and a record player.

Outside Resources

Writing Institute draws on the riches of New York City—with visits to the Museum of Broadcasting, the Manhattan Laboratory Museum, the National Coalition Against Censorship, the Donnell Library, the Circle Repertory Young Playwright's Festival, and at least two Broadway plays. Guest speakers have included author Robert Kimmel Smith, author Norma Klein, columnist Nat Hentoff, playwright Katherine Rao, and mime Terry Press.

Overall Value

The effective teaching of writing skills is one of the challenges confronting teachers on all levels of education today. The essentials of writing are not in themselves motivation for a large number of students. The *Writing Institute* approach effectively teaches students the basics of writing, and motivates them to produce their own clear communications in the form of plays, poems, monologues, and position papers. Students hand in extra writing assignments and beg for more workshops with professional writers. Through their meetings with these writing professionals, students quickly learn the application of writing essentials in the creation of exciting novels and articles. Says developer Reissman: "By the conclusion of the program, initial writing resistance has become writing insistence."

Junior High School
Communication Arts

Writing Institute

More Information

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Junior High School Communication Arts

Synthesis: Poetry Workshop

The Program

Synthesis: Poetry Workshop is a program that aims to involve students in a universal concept of understanding themselves and others through interpreting, writing, and reading poems. The program is designed to show that poetry can be either a way in or a way out of things. The program explores the history of poetry, beginning with the Psalms; poetic form and construction; interpretation; and the actual writing and reading of students' own works. They are encouraged to invite their families and friends to the poetry readings. A printed program, which lists the theme, selections, and a brief biographical sketch, is designed for each student.

The Students

Fourteen students from the seventh grade participated in the program this year. All students, especially those who demonstrate weak academic skills, are encouraged to participate. The group met four days a week during the lunch period. As a result of determination and a thirst for love, *Synthesis: I*, an anthology, was published in April.

The Staff

Geraldine Samuels is the developer and director of the program. Samuels, an English teacher for nine years, has published poems in various periodicals. Formerly senior editor of *Black Forum Literary Magazine*, she is at present the editor of *First Edition*, a New York City-based newspaper.

Materials and Facilities

The program is conducted in the classroom. However, the school auditorium has been used to practice for readings. The program requires the use of a tape recorder, notebooks, copy machine, and paper. A complete list of literary terms is provided for each student.

Outside Resources

The members of the program attend poetry readings given by established poets at libraries, parks and museums. Guest poets have made appearances and given readings for the program. Parents have donated refreshments for the poetry readings.

Overall Value

Says developer Samuels of her program: "Personally, I have developed a closeness with each student. I have been fortunate enough to see each student at a point far beyond what is projected in the regular curriculum. I am able to understand that children are people, too. I am able to look away from my everyday problems to hear the student's cry for understanding, hope, and love. I am now becoming the teacher that I have always desired to be." Other teachers may want to adapt this program if they wish to get to know their students, to go beyond the point of superficiality, and to build bridges for the students in life's experiences.

Michelle Agard
Peace is...

Feeling good
Walking on the beach
Playing,
Having fun.

Thomas Bell
The Sun

It was dark and scary
Everything was bleary
I didn't see a sight
And then,
peeked a light
It wasn't very bright
I watched a little longer
Then it grew stronger
And in time,
before I knew
Appeared the sun.

Allen Lane
Love

Light blue
Sign of peace
The smell of
porkchops
juicy, spicy
In my father's house
Summer
1970.

More Information

Geraldine Samuels
I.S. 61
400 Empire Boulevard
Brooklyn, NY 11225
Telephone: 774-1002,3,4
Principal:
Joseph C. Jones (Acting)

The Program

Shakespeare, the Classics, and Poetry is a communication arts and humanities program that enriches the curriculum and develops and stimulates the student's knowledge of Shakespeare, the classics, and poetry. Novels by such authors as John Steinbeck, William Saroyan, Jack London, and Mark Twain are studied. Poets included in the program are Langston Hughes, Emily Dickinson, Carl Sandburg and Walt Whitman. The literature classes are first introduced to the three units in the library media center, and this program operates daily in both the classroom and that center. Every student studies the units on poetry and the classics. Students whose ability is above average study Shakespeare. These students attend a performance of the Shakespearean play they have read and studied at Stratford, Connecticut. A videotape workshop is held, and the students perform a scene from that play—in costume. A Shakespeare festival culminates the project, and the entire school, the parents, and the community are invited. Special seminar rooms have been set up for Shakespeare displays—such as posters, reports, audiovisual materials, and replicas of the Globe Theater—and for research on poets, poetry, authors and the classics. Videotaping of poetry readings and performances of scenes from Shakespeare are used, and creative media workshops are held for planning and previewing materials and student projects. A bibliography of both books and media is available for the teachers and students.

The Students

Four hundred students from the seventh and eighth grades are involved in this program. The students are grouped into literature classes according to their ability. They meet twice a week. This project can be adapted to other age groups, using the classics and poetry appropriate for the particular age level. Small groups or large classes can participate.

The Staff

Marlene Sherman, library media specialist, has developed the program under the supervision and direction of the assistant principal in charge of communication arts. Sherman received a Teacher Incentive Grant from District 11 to implement the program. The I.S. 181 library media center was selected in 1975 as an exemplary library media center by the Office of Library, Media and Telecommunications of the New York City Board of Education, in recognition of the special program that has been developed by Sherman.

Materials and Facilities

The library media center is utilized for research skills and lessons, videotape and media workshops, and the introduction of the units. Audiovisual hardware such as slide, filmstrip, and overhead projectors; a video-cassette camera and recorder; a tape recorder; and a camera are needed. Special reference books, such as Iris Noble's *William Shakespeare* (New York: Messner, 1961) and Charles Lamb's *Ten Tales from Shakespeare* (New York: F. Watts, 1969) are necessary for the research collection. The communication arts instructors teach the units in their regular classrooms.

Outside Resources

The students attend a theatrical performance of a Shakespearean play at Stratford, Connecticut. Guest speakers are invited to the school. The students are encouraged to use the public library to supplement the materials at the library media center.

Overall Value

This program fosters lasting knowledge, appreciation, and understanding of classical literature, poetry, and Shakespeare. The book reports and media projects—videotape of poetry readings, production of Shakespeare's *The Comedy of Errors*, audio cassette recording of the music of Renaissance composers—are passed on to future classes who are motivated to learn and participate in the program. The students enjoy using their creative abilities to act and to make picture story boards and learning materials that are then displayed for the entire school and community. Says developer Sherman, "The program has been so successful that parents of our youngsters have praised it and have indicated they would like to see it continued. In addition, our students return to us from their high schools to confirm that they have an excellent background in this area and are still utilizing materials they developed in our school."

Junior High School Communication Arts

Shakespeare, the Classics, and Poetry

Marlene Sherman

More Information

Marlene Sherman
I.S. 181
800 Baychester Avenue
Bronx, NY 10475
Telephone: 379-7600
Principal: Joseph Petrella

Intermediate School Communication Arts

Students Writing for Students

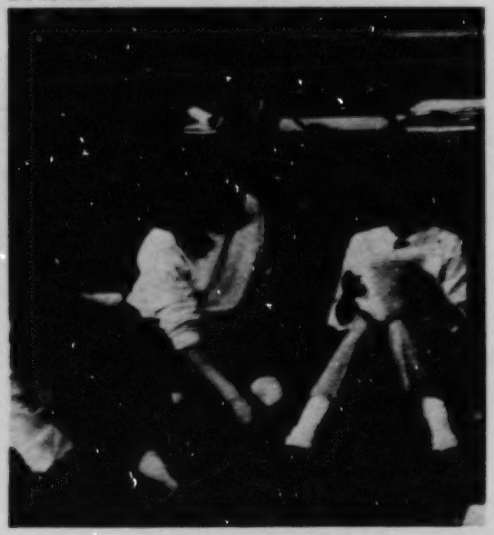
The Program

Students involved in *Students Writing for Students*, by reading, performing, and responding to one another's work, become better writers. The program offers a variety of composition activities, including monologues, duologues, and plays; interviews and transcribed discussions and improvisations; stream-of-consciousness writing; workshops where students listen to, and comment on, each other's work-in-progress; and the presentation of finished compositions in class magazines and performances. There are no assigned topics; rather, procedures and forms are introduced which the students can pursue. Composition activities begin with stream-of-consciousness writing and sensory and memory monologues. They continue with the introduction of other voices, both speaking and implied, in interviews, transcribed discussions, and dramatic monologues. Students progress to work of increasing complexity, such as the one-act play and the dialogue of ideas.

The Students

Sixty-six seventh and eighth graders took part in the program last year. They ranged widely in ability; the program encourages helping interaction between more and less developed writers,

Eric McAllister



and allows individual students or groups the option of attempting more abstract and complex kinds of writing at any given point in the sequence. Class size varies from 15 to 18, but since much activity takes place in workshops of three to five students, total class size does not matter greatly. Classes meet five times per week, with three classes given to the writing program, on the average, and the remaining periods to related work with literature and grammar.

The Staff

Students Writing for Students was developed by A. Thomas Southwick. Using booklets of his students' work and videotaped performances written and acted by them, he presented the methodology of the program at the ATIS (Association of Teachers in Independent Schools) 1983 annual conference. Two other teachers at his school have introduced elements of the program into their classes. Both the headmaster of the school and the English coordinator enthusiastically support the program.

Materials and Facilities

The teacher needs descriptions of the various writing procedures that are introduced. Students will need to refer to these later. Also needed are suggested questions to guide students in the ongoing workshops when they discuss works-in-progress. These materials are available to teachers interested in adapting this program.

Outside Resources

Access to any of the following is helpful but not essential: copier, tape recorder, video recorder.

Overall Value

The quality of student writing improved in all aspects, especially the following: independence of thought, vividness of expression, effectiveness of revision, clarity of organization. Besides increasing skills and motivation, the program has two larger consequences, according to developer Southwick. "By promoting student-generated writing topics, *Students Writing for Students* raises self-knowledge; and by encouraging the sharing of work in the various stages of composing, to the final status of performance, the program helps to create a community through common effort and expression." Because the students are the primary audience for their writing, they like writing better and they write better.

More Information

A. Thomas Southwick
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New York, NY 10003
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Headmaster: Kingsley Ervin

Phyllis Tashlik

The Program

Basically Poetic is an intensive poetry unit to which all students, from the most basic writer to the most prolific, will respond. Through varied experiences with poetry, students improve their writing, enrich their understanding of literature, and gain self-confidence. They become courageous writers, discovering not only language but themselves as well. During class, students read and discuss a wide range of poems, including such diverse selections as Langston Hughes's "Madam" poems, T.S. Eliot's "Preludes," and Sylvia Plath's "Mirror." The class develops a glossary of poetic elements, based on the poetic devices they discover in the poems they read. Concurrently, students write poems either modeled on or inspired by the ones read. Time is also given to writing poetry to music, listening to musicians' and singers' interpretations of poems, and writing poetry in response to photographs. At various times during the program, students share their poems, read their poems aloud, or work together in small groups. At the close of the program, each student publishes a book of ten original poems. An additional long-term project requires each student to select a poem for a class presentation (a recitation from memory, or a graphic or musical interpretation).

The Students

This program can be easily adapted to any achievement level or age group. Last term, three eighth-grade classes participated.

The Staff

The unit was developed by Phyllis Tashlik, an English teacher at Manhattan East, an alternative junior high school. Tashlik has established the Manhattan East Press, which publishes two books a year for each of the students attending the school. Although she has the complete support of her director, the program can be implemented within the English classroom without strong administrative support. Tashlik is also an active member of the New York City Writing Project.

Materials and Facilities

Before concentrating on particular poems in class, teachers should be sure they have gathered together a selection about which they themselves are enthusiastic. Dittoed or xeroxed copies of the poems can then be bound and distributed to the students as a poetry anthology. If a bookbinding machine is available, a teacher may offer to bind the students' collections of original poems; or a group of students could use the machine at lunchtime to bind students' books.

Outside Resources

Poets could be brought into the classroom to read their poems and discuss them with students. It would be a wonderful addition to the unit. Two groups that offer such programs are Poets in the Schools (914-238-4481) and Teachers and Writers Collaborative (691-6590).

Overall Value

In the rush to teach basics, we have forgotten that the most basic element of all written communication is the *voice* of the writer. "Through an intensive experience with poetry—reading, discussing, writing—students discover their own voice," says developer Tashlik. "The confidence and pleasure they gain in that discovery carries over into all subsequent writing and reading experiences."

Junior High School Communication Arts

Basically Poetic

More Information

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Manhattan East J.H.S.
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New York, NY 10029
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Director: Jacqueline Ancess

Junior High School Communication Arts/Career Education

How I Got Started

The Program

How I Got Started is a series of interviews that students conduct with people both in and out of the public eye. Rotating groups of students arrange and prepare interviews with the basic purpose of finding out how events that occurred, and decisions that were made by people in their teenage years affected their later lives.

The students have interviewed many people in the business and professional world. Some of the more famous interviewees include: Jim Lowe, WNEW disk jockey; Maureen McGovern, star of the show "Nine"; Sammy Kaye, the bandleader; and Carol Bellamy, president of the New York City Council. All have stressed how events in their earlier years affected who they are today. Audiotapes are then played for other students at career education seminars.

The Students

This past year, the core of the program consisted of 24 students from the seventh, eighth, and ninth grades. They took turns selecting people to interview and preparing questions for the actual dialogue.

The Staff

Bonita Walsh, an actress and an English teacher for the past seven years, developed this program in the hope that students would learn to be less complacent about considering their future. The results have been startling. Students are beginning to show a definite concern for their own future and to realize that it is not too early to start planning for it. The program has the wholehearted support of the school and district administrations.

Materials and Facilities

The basic planning and replay of the tapes is done in a classroom. For the most part, the children travel to the interviews, but the program has been fortunate to have a few people such as Eileen Kristen of the television serial "Ryan's Hope" and Alvin Sanders of the Folger Shakespeare Company address an entire seminar. To accomplish this, another cassette recorder, more audiotape, and, for the instances where videotaping is allowed, more blank video cassette tapes are needed.

Outside Resources

No outside resources are necessary.

Overall Value

"This is a wonderful program that brings students in close contact with people for whom they have a lot of respect and who are in a position to influence them greatly," says developer Walsh. "The result is that the interviews have influenced our students, and the attitudinal changes have been most positive."

More Information

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The Program

Word Games that Work! is a program that motivates average, below-average, learning-disabled, and ESL (English as a Second Language) students to acquire vocabulary skills through word games. The children are taught specific vocabulary skills such as word classification, antonyms, and synonyms; then they are provided with challenging activities that are designed to improve their creative thinking and basic writing skills. For example, the game entitled "Apply Yourself" asks students to think of the name of an appliance found in the home. Students then pretend to be an appliance. They write a paragraph that describes that experience based upon questions provided by the teacher, such as "Who would love to own you?" A manual that describes each game will be made available to teachers who adopt the program.

The Students

Two hundred and twenty-five students, from grades six through eight and the Promotional Gates classes, have participated in this program for the past three years. Students meet between three and five times each week for 40-minute sessions. Currently, the program is being used in the seventh-grade Promotional Gates classes, which meet 12 times a week for 40-minute sessions.

The Staff

Nancy Winocoor, who has a Master of Science degree in reading, has been teaching reading for seven years and is presently a Promotional Gates communication arts teacher. She has conducted workshops in various community school districts. Her description of one of the activities in this program was published in the March, 1982 issue of *Learning*. The program has the support of the administration and the department chairperson. They have encouraged its continued use, development, and expansion.

Materials and Facilities

The program can be conducted in a regular classroom. The only materials needed are the *Word Games that Work* manual, a source to reproduce the rexograph stencils (activity worksheets), and the following supplies to construct the games: construction paper, scissors, ruled index cards (plain or colored), spirit duplicator stencils, assorted magic markers, glue, crayons, colored chalk, and pencils.

Outside Resources

No outside resources are needed.

Overall Value

The game concept is highly motivational, as learning becomes associated with fun and enjoyment. Students are taught specific vocabulary skills and provided with exciting and challenging activities designed to improve their basic and creative writing skills. They are successfully motivated to participate in class by playing games. Says developer Winocoor, "Students also learn the values inherent in behaving like a good sport, as they actually look forward to learning. Such values are an integral part of this program and prove that *Word Games That Work!* is truly an overwhelming success."

Intermediate School
Communication Arts

Word Games That Work!

More Information

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High School
Communication
Arts/Art

Transposition: Artists and Writers

Judith Brindley

The Program

Creative transposition—as exemplified in *Transposition: Artists and Writers*—brings student writers and artists together to "react off" one another's work through a technique of interdisciplinary exchange. Each student in the creative writing class is assigned a partner in the studio art course with whom a piece of work (for one, written; for the other, painted or drawn) will be mutually exchanged. Students are then asked to produce an artistic product that is directly inspired by the borrowed piece. For example, a writer composed a poem about several childhood experiences from which an artist transposed a collage piece composed of snapshots and other personal mementos. Artists are reminded not to illustrate their peers' writing, nor are the writers merely to describe in words the pictures they are given. Instead, they are to transpose one medium into another by candidly reacting to the work through the vocabulary of their particular genre. This exchange process works best when it is allowed to continue over a series of at least three sets of exchanges. Students tend to become more open and courageous as they become more comfortable with the language of transposition. After each transposition is completed (we gave two weeks), students regroup to share their works and feelings about the particular transposition they have created.

The Students

Six students from the studio art class and seven students from the creative writing class participated in the exchange. Most were eleventh and twelfth graders, though the exercise can be adapted to any size high school group.

The Staff

The program was developed by Judith Brindley, art teacher, and Rosetta Cohen, creative writing teacher, at the Calhoun School. The program was an outgrowth of a personal collaboration between the teachers. Their original pieces were used as demonstration materials for the initial student exchange, though this teacher involvement is certainly not a necessary stimulus for the project.

Materials and Facilities

Each student brings into the exchange an original piece of work. Actual work on the transpositions is done during class time, using art room materials. After the transposition is completed, a large space is recommended so that the students may display their pieces and discuss them in the group.

Outside Resources

No outside resources are needed.

Overall Value

As an interdisciplinary project, creative transposition enables the student to discuss a range of aesthetic issues: Where does inspiration come from? How are various art forms similar and different? "The project also promotes affective growth by fostering responsibility and respect for one's own work and the work of one's peers," comment developers Cohen and Brindley.

More Information

Judith Brindley or Rosetta Cohen
Calhoun School
433 West End Avenue
New York, NY 10024
Telephone: 724-1980
Head of School: Neen Hunt

The Program

Tell Me a Story is a program that enables students to recreate and experience the processes of the oral tradition that shaped and refined stories until they were finally put into writing. The program was devised as the opening unit to a course in the development of Western literature. Students are divided into groups of five or six. Each group selects a well-known Bible story to research and retell from memory. Bible stories were chosen because they played an important role in later Western literature, but fairy tales or other familiar stories can easily be substituted. Each group member prepares and delivers an oral version of the particular story, while the rest of the class listens. After all five or six renditions are heard, the listeners write the story from memory. Once the stories are in writing, the listeners evaluate the oral renditions, commenting on specific differences in style and content from one speaker to the next, and pointing out the most memorable episodes and phrases. This process is repeated with each group. The groups that reported each story then receive the written versions produced by the class. The members of the group read the written versions, confer about the differences they find, and underline all positive aspects—effective wording, description, characterization, unusual additions, imaginative narration. In committee, the members of the group combine the best aspects of the students' stories into a single, authoritative text. These final texts are displayed, together with illustrations prepared by students.

The Students

Thirty students from ninth grade were involved in this program, part of an innovative humanities curriculum that meets five times a week, for 80 minutes per session.

The Staff

Anne Millman, who has been teaching the humanities class for two years, designed and implemented this program. Students helped prepare an extensive bulletin board display of final texts that outlined the entire project and showed the results.

Materials and Facilities

No special materials are needed, although the following items would be helpful to classes that are less independent than this humanities class: copies of stories to be used for research; paper for preparing intermediate and final drafts of the written texts; art supplies (paper, crayons, magic markers) so that students can illustrate scenes from the stories. A classroom with movable desks facilitates group activities.

Outside Resources

Bibles, or other story books available in school or public libraries, are the only outside resources needed.

Overall Value

The value of this program evidenced itself in several ways, according to developer Millman. Students learn about, and are able to describe, the historic process of the oral tradition with great understanding and comprehension. Students participate in all activities, and show discernible improvement in their ability to listen, speak, remember, write, evaluate, and edit. "Students show great enthusiasm for the activities they are asked to perform, pride in their results, and understanding of the purpose of the project," she comments.

High School
Communication Arts

Tell Me a Story: Experiments in the Oral Tradition

More Information

Anne Millman
Jane Addams Vocational H.S.
900 Tinton Avenue
Bronx, NY 10456
Telephone: 292-4513
Principal: Barbara Greene

High School
Communication Arts

Psychology Through Literature

The Program

The purpose of *Psychology Through Literature* is to achieve deeper insight into one's own attitudes and behavior, as well as to add a new dimension of perception to a literary work. The students are introduced to very basic concepts of normal and abnormal psychology. The terms psychiatry and psychology are defined. A very simple presentation is made on the three main types of psychopathology: psychosis, neurosis, and personality disorders. These discussions are paired with readings selected from *The Abnormal Personality Through Literature*, by Alan Stone and Sue Smart Stone (Prentice-Hall, Inc., 1966). These readings illustrate dramatically the material discussed, while introducing students to authors such as: Chekhov, Gogol, Hugo, Rilke, Balzac, Shakespeare, Fitzgerald, and Poe. Particular readings such as "The Tell-Tale Heart" by Poe and "The Black Monk" by Chekhov are selected, based on their appropriateness to age, class, and ability, to illustrate the points under discussion. Assignments require identifying the characteristics discussed in class in the artistic working-out of the character in the story under study. This is a five-lesson unit. A second unit of five days describes the science of psychology: the science of mind, or of mental states and processes; the science of human nature; the science of human and animal behavior; the mental states and processes of a person or of a number of persons, especially as determining action. Psychological defenses or adaptive processes are defined, and examples from a text are used as "clinical" illustrations. Authentic examples from case studies are also distributed. An autobiography, e.g., Richard Wright's *Black Boy*, is a singularly effective tool. Homework assignments require the students to discover examples of suppression, dissociation and other defense mechanisms and explain reasons for their choices, in the process of strengthening their writing skills. Units of increased complexity may be used in grades ten to twelve, to illuminate and expand the performance objectives stated in the New York City Board of Education's *Minimum Learning Essentials, English/Communication Arts*.

The Students

One hundred above-average students in the ninth grade of the Macy's Medical Professions Program, which is designed to prepare highly motivated high school students for careers in the medical professions, are involved in the program. They meet five times a week, for 40 minutes each session. The literature portion may be adapted to include all levels of students.

The Staff

Walbert Morrison, in conjunction with personnel from City College of New York, developed the program. He has taught English honors courses for three years. The units may be used by the English teacher of a ninth-grade class. Morrison also developed and wrote the curriculum for Macy's Medical Professions Program-English.

Materials and Facilities

The program is classroom-based, and a variety of literature that the teacher has duplicated should be provided. A list of materials—psychological and literary—is available upon request. Additional teacher-made materials, such as clippings of newspaper stories that deal with irrational behavior, may be needed.

Outside Resources

A school psychologist may be invited for one lesson.

Overall Value

Developer Morrison states: "The students learn that literature may be read on many levels. They learn that each level increases their understanding of the literature and of the world in which they live. The student learns that artists shape art to their experiences." At the same time, students are given a framework that will help them to achieve deeper insight into their own attitudes and behavior.

More Information

Walbert Morrison
A. Philip Randolph Campus H.S.
139th Street & Amsterdam Avenue
New York, NY 10031
Telephone: 926-0113
Principal: Lottie Taylor

The Program

The *Writing Competency Through Pleasure* program purports to help students who have reading and writing problems not only to pass the Regents Competency Test but also to acquire a pleasure and confidence in writing never experienced before. No grades are given. Rough drafts of reports, essays, and letters are revised—with student and teacher operating on a one-to-one basis—as soon as the student completes a first draft. Revised copies are stapled to the top of the original draft for further reference. Comments such as "good revision" are written on students' revised copies. In addition, a running commentary by the teacher on the individual student's strengths and weaknesses is kept in the student's folder. Students are encouraged to assist each other in correcting technical errors while waiting for the teacher's or paraprofessional's assistance. A weekly journal is kept (about five minutes once or twice a week) which is generally not graded but becomes a means of expressing students' emotions on that particular day. Students are encouraged to keep journals at home as well, for their own enjoyment. The teacher often writes in his/her journal along with the students. Once a week, anonymous pen pal letters are written in business letter form to students in another class—using pen names such as "Smiley," and "Curly." Students meet their pen pals at the end of the term, during a class trip to a museum or other cultural institution. They then write about the trip and their meeting.

Students are encouraged to read and write about current happenings reported in the daily newspaper. Letters are written to the editors of daily newspapers, as well as to the school newspaper. Sometimes these are published, or at least acknowledged. Students write letters to the principal, assistant principal, or dean about matters of concern to them. For example, this past term students wrote to President Reagan about his proposal to have school year-round, and also about the so-called "squeal law." They wrote to Mayor Koch about the proposal for a national service year for all eighteen-year-olds. They wrote to the school newspaper about the quality of school lunches. One student wrote to the principal requesting a music award at graduation, for which he felt he was qualified. These persuasive letters to the mayor, senator, congressional representative, or President of the United States are about significant issues already discussed.

Students write poems on occasions such as Valentine's Day or Christmas, so that they do not get bored with writing only business letters, reports, or essays. This also increases their appreciation of the language. Grammar is rarely taught as a full-class lesson, but rather as a "Do Now," preparatory to a composition assignment, to insure immediate application. Sometimes mini-lessons may be taught to small groups of students needing help in a particular area such as capitalization. Bulletin boards and classroom walls displaying students' revised copies instill a sense of pride in writers. Students interview each other and check each other's interviews for accuracy of facts as well as technical errors. An end-of-term class newspaper consists of students' poems and revisions of essays and reports. This does not necessarily reflect only the best work but is rather a representative sample. The teacher includes a puzzle and autograph page.

The Students

Last term, the program thrived in a writing class of 25 students, all juniors or seniors. This term it is being used in two writing classes consisting of approximately ten students each, all juniors and seniors.

The Staff

The program was developed and is implemented by Gloria Rider. Recently a full-time paraprofessional has been assisting with the program, but initially there was only a part-time paraprofessional for one of the two writing classes. Rider expects to request five writing classes for next term's implementation.

Materials and Facilities

Writing Power by L.H. Graham and M.K. Young, *Writing: The Report* by Albert G. Craz and Edward P. Marrogis, daily newspapers, magazines, and poetry books provide materials for the program.

Outside Resources

Trips to museums such as the Museum of Modern Art and the Whitney Museum of Art are productive and helpful.

Overall Value

"Students gain confidence and ability in writing, and teachers gain eager students and relief from grading," advises developer Rider.

High School Communication Arts

Writing Competency Through Pleasure

More Information

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Principal: Louis Santiago

Special Education
Communication Arts

Improving Language Skills Through Prevocational Education

More Information
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Howard Beach, NY 11414
Telephone: 738-3675
Principal: Samuel Rabinoff
Special Education Supervisor: Theresa Revans

The Program

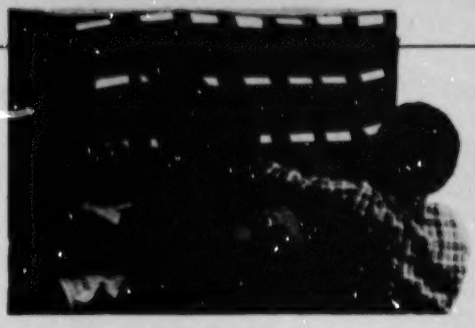
Improving Language Skills Through Prevocational Education selects 11 to 13-year-old students who have language delays of five years or more, and provides them with functional prevocational experiences to remediate deficits in receptive and expressive language. The students participate in experiential activities that are designed to impress upon them the importance of mastering the basic language skills essential for job-market entry. Vocabulary expansion that emphasizes familiarity with job titles, functions, and other prevocationally related terms is an integral part of this program. Students participate in teacher-guided telephone conversations involving job inquiries, and in controlled role-play experiences where students alternate being an employer, an employee, and a store customer. Students are required to ask and answer pertinent questions while participating in the job-related situations described above. Organizational skills and written expression skills are also integral parts of this program. A sorting box, in which children are asked to place such items as noun, verb, and adjective word cards, zip codes, and area codes, is divided into appropriate compartments and serves as the basis for one organizational activity. Experiences in filling out job applications, as well as writing letters and addressing envelopes, are also provided. Proper syntax and simple paragraph-writing skills are developed by providing job-related creative writing themes. Students can project that they are in hypothetical job situations, or they can discuss future job aspirations. Students enthusiastically participate in this program because they engage in activities that will provide them with marketable skills. These skills can be utilized in jobs in their immediate future (e.g., newsboy/girl, stockboy/girl, messenger, vendor). A detailed curriculum guide, with bibliography, materials, and outside resources, is available to interested teachers for replication.

The Students

Ten language-impaired students are participating in this program. These students are 11 to 13 years old. They have severe language delays, and are generally on a second to third-grade level in all academic subjects. This program can be adapted to meet the needs of a younger language-impaired population.

The Staff

Lawrence Buckman developed and is currently



Barbara Syrett

implementing this program. He has been a special education teacher for six years, and has taught in the School for Language and Hearing Impaired Children (SLHIC Program) for the past three years. The program is being implemented with one teacher and ten students, and no additional personnel is required. The SLHIC supervisor, the school program coordinator, and the building principal enthusiastically lend their support to this program. Their cooperation is essential.

Materials and Facilities

This program can be taught with teacher-made materials such as rexograph worksheets and sorting boxes. Audiovisual materials borrowed from the Instructional Support Unit (a materials library, located in each borough) are invaluable. The lessons would be tremendously enhanced, however, with commercial materials such as language-based, prevocationally focused workbooks and pictures, and more office-oriented materials such as filing and collating boxes.

Outside Resources

Neighborhood trips to local stores, post office, bank, library, and firehouse, and trips to Kennedy Airport, Manhattan businesses, and *The New York Times* greatly supplement this program.

Overall Value

In this program, upper elementary-aged students, whose language skills have failed to progress through a traditional approach, will be given an opportunity to expand their language skills by participating in a highly motivating experiential program. Says developer Buckman: "This curriculum has been designed for students who have given up attempting to master many basic language skills. Students are alerted to the fact that the possibilities of acquiring and maintaining a job are minimal without the mastery of the basic language goals set forth in this program."

The Program

Sewing Away is designed to improve reading skills by enabling neurologically and emotionally handicapped children to produce creative and functional objects in a school environment. The class develops projects based on a theme or related to a season. The children acquire sewing skills while developing vocabulary. Through a multisensory approach to reading, the children start off by reading directions to make ornaments (Christmas balls, trees, candy canes, and doves). Eye-hand and fine-motor skills are incorporated by tracing and cutting a pattern, knotting the thread, and learning a simple stitch. Sequential order is reinforced by proceeding in a step-by-step fashion. Pieces are matched and pinned together with safety pins, and the children are instructed to use small stitches along the seamline. Reading, vocabulary, and meaning charts are displayed; patterns are provided, and rexograph sheets are used to review each step. Mathematical skills of measurement are used. Children are shown a yard of fabric, and how to measure in inches and feet. During this learning process, the children write down in their own words what has occurred. Materials are shared to develop good group work interactions and to stress the importance of team work. This gives the children the opportunity to help one another and brainstorm how to enhance each project. Children may want to needlepoint names or messages on their works. Complex assignments include mobiles and a patchwork pillow. Color schemes are discussed. Works are displayed and used as gifts for the holidays. A class patchwork quilt is the final goal.

The Students

This program has been used successfully with ten special education students in a class for Neurologically Impaired and Emotionally Handicapped (NIEH). The children are functionally two to four years below grade level in reading. Many have poor fine and gross motor coordination skills. In addition, many have poor self-images, and have problems dealing with group situations. As each project was completed, each child developed a sense of accomplishment and showed vast improvement in the skills taught. This program could be adapted to any student population.

The Staff

Sewing Away is implemented with the assistance of a paraprofessional. The program was supported by the principal and special education supervisor.

Materials and Facilities

A sewing corner should be set up with scissors, fabrics, polyester fiber, needles, thread, patterns, and completed works. Photos should be taken.

Outside Resources

The teacher might make arrangements to take a class trip to sewing centers and fabric stores, and to visit such shops as The Hired Hand on 88th Street and Lexington Avenue.

Overall Value

This program is an innovative approach to fostering reading and mathematics skills. "Self-images of the students are enhanced. It is a viable way to develop their marketable skills; and the incentive to create stimulates their artistic abilities. The students' works can be sold for profit. In addition, this program can be replicated without difficulty," says developer De Stefano.

Special Education
Communication Arts

Sewing Away

More Information

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Special Education
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Special Education
Communication Arts

Clowns, Jugglers, and Mimes

Charles Evans

The Program

Clowns, Jugglers, and Mimes combines the creative arts, physical fitness, and the communication arts in a fast-paced, fun-filled, highly motivating learning experience. Students begin by learning the basic elements of comedy. They then learn the three basic types of clown make-ups (white face, auguste, and character), three-ball juggling, and the making of balloon animals. Children make costumes from old clothes (the Parent Association may wish to make them). Skits are written by the students, first as a group and later as individuals. A program is put together and children perform at a school assembly (or perhaps a school carnival), at a local library, or at a local day care center. As the project proceeds, children develop improved oral communication, written expression, and coordination (through mime, juggling, and balloonology). They also acquire some interesting facts of American history. (Did you know Uncle Sam began as a Ringling Brothers clown?) The scope of the program is almost limitless. A full information packet is being prepared, to include sample skits, sources of materials, trips, a bibliography, and "skill" handouts that may be copied or reproduced.

The Students

Last year approximately 20 students, grades four to six, ranging from the gifted classes to special education students, worked two periods each week with the resource teacher. The program may be easily adapted to the self-contained classroom, a very wide range of ability levels, and grades four to twelve. With a little more work and some assistance, kindergarten to third grade could also benefit. The size of the group can easily be increased to the 35 children generally comprising a class.

The Staff

Clowns, Jugglers, and Mimes was developed by Charles Evans, a teacher for 13 years and a professional clown. It is implemented with the full support of the principal and the Parent Association. Evans has taught clowning at New York University's Open Space. He is a former Clader Fellow, a past recipient of the New York City Junior Chamber of Commerce's "Outstanding Young Educator" award, and a previous winner in the National Conference of Christians and Jews "Certificate of Recognition" in the field of education.

Materials and Facilities

You adapt to what you have. Most activities take place in the classroom. Clown make-up is a must. But if necessary, an inexpensive substitute can be made from tempera paint. Tissues and mirrors are necessary. Balls are needed for juggling; children can buy these, or discarded tennis balls may often be acquired free of charge. Costumes may be made to order (an excellent Parent Association project) or pieced together from old clothes and scrap materials.

Outside Resources

A valuable addition could be trips to perform at local libraries, day care centers, or homes for the elderly. Instruction may also be supplemented by attending performances at the Brooklyn Academy of Music, Library of the Performing Arts, The Big Apple Circus, or the Ringling Brothers Circus. There is also the possibility of inviting clowns and jugglers to visit the school.

Overall Value

"It works!" So says developer Evans. "The bottom line is the program works. The program generates high enthusiasm, improved self-esteem, better self-control, and improved academic work. Perhaps best of all, it demonstrates that learning can be fun."

More Information

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Special Education Supervisor:
Josephine O'Brien

The Program

Speech and Movement: The Videotape Connection is a program that evaluates the gross and fine motor skills and the specific speech and language needs of groups of students. This includes production of sounds like "p," "b," and "m" as well as the comprehension and use of language. Rhythm and dance activities involving simple movement patterns, and the use of instruments such as rhythm sticks, drums, and triangles, are selected to meet their special needs. Articulation exercises using tongue, lip, and jaw movements, and other forms of verbal expression such as singing and choral speaking, are incorporated with the physical activities. These activities implement basic auditory, visual, and motor stimulation by requiring the children to feel and touch their own articulators as they listen to musical rhythms and instructions from the teacher. The lessons are videotaped and presented to the students for additional instruction and remediation. At videotape workshops attended by parents, teachers, and supervisors, the speech therapist explains the procedures used and how techniques such as basic body movements in response to simple rhythm patterns, repetition, and heightened awareness of the articulators, can be adapted in the classroom and at home. Parents are given the opportunity to ask questions and to present their own techniques for home stimulation to improve articulation and language.

The Students

The 20 students who participate in this program attend special education classes (delayed learners, health conservation). The students range in age from seven to ten years of age, and all 20 require speech and language remediation. Their speech classes meet two times a week. This program can be adapted to other age groups and achievement levels, but appears to work best with small groups of students.

The Staff

The videotape program was initiated by Lauren Grant of the Speech Services Unit. Grant is a fully licensed and accredited speech and language pathologist whose previous research on a specialized technique in a speech therapy program has been published in the *Journal of Communication Disorders* (1982). The supervisory staff of the Speech Services Unit and the school administration support the videotape program. It can be implemented with the assistance of a teacher and paraprofessional or volunteer who is trained to use the videotape equipment.

Materials and Facilities

A room is needed with adequate space for movement and dancing and enough lighting for videotaping purposes. A phonograph and appropriate records are required to facilitate motor skills and maintain interest. Rhythm sticks, drums, and other musical instruments can also be utilized. The videotape equipment consists of a tape deck, threading tape, portable camera, AC adaptor, and television monitor.

Outside Resources

No outside resources are necessary.

Overall Value

Videotape dramatically emphasizes the value of music and dance in a speech and language therapy program. The coordination needed for intelligible speech production progresses from gross body movements to the finer and more difficult movement patterns of the articulators. Repetitive rhythmical movements of the body, with and without music, increase the muscular control needed for adequate oromotor skills. Listening, auditory discrimination, and perceptual motor abilities are improved. The student's attention span increases, thereby reducing hyperactivity and distractibility. Music and dance are pleasurable activities that help shy children to become involved, first physically and then verbally, with their peers. Developer Grant points out that "Videotape is a valuable instructional and remedial tool that highlights these techniques. It sustains students' interest and motivation. Videotape presentations to parents, teachers, and supervisors stimulate cooperation for carryover of therapy procedures to the home and classroom, and new techniques evolve from group discussions following the videotape presentations."

Special Education
Communication Arts

Speech and Movement: The Videotape Connection

More Information

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Special Education
Communication Arts

Educational Puppet Theater

More Information

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Special Education Supervisor: Chin Chan

The Program

The purpose of *Educational Puppet Theater* is to increase enthusiasm for reading and writing, along with enhancing children's skills in public speaking and improving their fine motor coordination. The program was implemented in the learning disability resource room for slow learners. It was launched with a guest speaker who is a professional puppeteer, Gina Romano. She came to the classroom, gave a short introduction on the history of puppetry, and performed an original puppet show. During the following month, children read several fairy tales. Three of those fairy tales—"Goldilocks and the Three Bears," "The Elves and the Shoemaker," and "Hansel and Gretel"—were rewritten into play form by the students. As a group, the class did research on the history of puppetry. They also used *The Puppet Theater of the Modern World*, by the Union Internationale Des Marionnettes, then listed the materials needed to make puppets. Films on puppet-making were also shown. A puppet workshop was developed, and each child made a hand puppet and the props needed for the play. Rehearsal time was allotted, and a performance was given in kindergarten through second grade. The class also went on a field trip to the Central Park Puppet Theater.

The Students

Fourteen children—all in the resource room for learning disabilities—participated in the program. The grades varied from fourth to sixth. The program can be implemented with any age group or achievement level, and the size of the groups can vary. The children worked over a period of three months, approximately two times a week, for a one-hour session.

The Staff

Randy Greene has been a learning disability specialist for the past four years. She developed the program with the help of a graduate student from New York University and Gina Romano, a professional puppeteer.

Materials and Facilities

Materials for the program can be set up in a regular classroom. Clay, newspaper, vaseline (to prevent papier-maché from sticking to clay molds), wheat paste, buckets, various fabrics, needles, thread, and scissors are used to make the puppets. A film on "How to Make Puppets" and the book, *The Puppet Theater*, as well as *The Puppetry Store Catalog* that lists books on puppetry, are helpful resources. The puppet stage which the children used for performances was donated to the class by People, Puppets and other Dummies, a professional puppeteer company.

Outside Resources

Guest speakers can motivate and enhance the learning, as can trips to the library at Lincoln Center and to the puppet theater in Central Park.

Overall Value

The program increases motivation for slow learners to read, write, and perform. Says developer Greene: "The children learn to assist each other, work as a team, and develop a sense of pride in their work. Their artistic creativity is also tapped."

Randy Greene

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The Program

Broadcasting for Better Speech, a speech improvement program for students with various speech disorders, uses elements of radio broadcasting to motivate students to use better speech. Students conduct interviews of teachers and peers; research topics of interest, e.g., contemporary music; and gather news. Then they write a script for an original radio show, which is taped, broadcast in class, and later sent over the public address system for the entire school. At the beginning of the term, the speech teacher evaluates students' speech and language skills through formal and informal testing. A cassette tape of each student's speech pattern is made. Then an Individualized Education Program (IEP) is written, with the long-term goal of having the students produce corrected sounds and incorporate language concepts in spontaneous speech; and the short-term goal of having them produce corrected sounds while reading a poem. Speech improvement charts are used to note the students' progress after each class meeting. The speech teacher develops students' auditory discriminative skills, so that they can note progress in themselves and their peers. Students are discharged from the speech improvement program when they meet IEP objectives. Students who are underachievers also experience some success by building their expressive language skills and self-esteem. Lesson plans, students' writing samples, and radio scripts are available.

The Students

Thirty students with various speech disorders (i.e., dysfluency, articulation, language) from grades seven through nine are participating this term. Twenty-five percent of the students are average students; 75% of the students are below average. The teacher meets with the students two times a week, in groups of two to four. This program can be implemented on the elementary, junior high, or high school levels.

The Staff

Doris Kahn, licensed speech teacher, developed and implements this program. The media coordinator of the district has supported the program by providing technical recording facilities. The English department has furnished full support.

Materials and Facilities

The program can be conducted in a classroom, preferably a quiet room. Tape recorders; diagnostic materials; *K-Speech News* by Dianne Barad, published by Communication Skill Builders, for samples of radio scripts; rexograph masters and paper for duplicating the script; and a camera used to document students' participation in the radio broadcast are the materials used for the program.

Outside Resources

Resources include public and school libraries for sample records of radio shows and script material.

Overall Value

"Overall value for the school is the development of students' listening skills and pride in their school. Another plus is the involvement of English teachers in the development of similar programs. For the student, the value is self-esteem and improvement of listening and oral skills," says developer Kahn.

Special Education
Communication Arts

Broadcasting for Better Speech

More Information

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Special Education
Communication Arts

Spelling and Reading Through Sign Language

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The Program

Spelling and Reading Through Sign Language is a program designed to remediate and motivate students through an innovative use of sign language. Sign language is used to remediate spelling and reading skills with children who are performing well below grade level in these areas. The program *does not require*, in order for it to be effective, that a student "memorize" sign language, although many of the students do master it because of interest and practice. Each child has a personal copy of the finger-spelling alphabet. The child is encouraged to refer to this during all lessons. The program focuses on the finger-spelling of words that the students have learned in class lessons, during spelling or reading periods. The list of words from each subject area is individualized for the student whenever possible. The spelling words used are chosen from the individual weekly spelling test. The reading words are a combination of sight words and phonics skills. The initial lessons focus on forming the finger alphabet and reading the finger alphabet chart. Following these presentations, the children sign target words to each other in a group. The actual body of the program revolves around the child's interaction with the target word presentation. The child may have to either sign a spelling word or read a word which is signed by the teacher. If a reading word is signed, the child is expected to select the correct word from a list on the board. In the latter part of the program, the lessons focus on sentence construction using the finger alphabet. Throughout the development of each part of the program, numerous games are devised to increase practice and reinforcement of the target words.

The Students

This program has been used effectively with ten students, aged 10 to 13, who were experiencing learning difficulties. The program has been in operation in a self-contained classroom for the past year. These students are all severely deficient in spelling and reading.

The Staff

The program was developed by Bonnie A. Maxwell and implemented in cooperation with Debbie Ziotowitz, who has been both helpful to and supportive of the program. This program can be implemented by the classroom teacher without any additional assistance. Both Maxwell and Ziotowitz are learning disabilities teachers.

Materials and Facilities

The program can operate well in an average classroom. Each student needs a miniature finger-spelling alphabet chart. A chart is available from the developer. It is also necessary to have a large finger-spelling alphabet chart hung around the room. Game boards and teacher-made materials may require index cards, poster board, and markers. Stickers and prizes are needed to reward the children's efforts and improvement. The teacher may need a sign language dictionary for reference. A copy of *Signing Exact English*, published by Modern Signs Press (PO Box 1181, Los Altimos, CA 90720) is a useful dictionary that provides a wide variety of vocabulary and high interest words.

Outside Resources

No outside resources are necessary.

Overall Value

This program has generated enthusiasm for practicing reading and spelling words. It has aided the teacher in making learning simultaneously "fun" and effective. Students have shown marked improvement in learning and retaining the words reviewed in this program. Maxwell has observed that "There is a positive effect on attention span when the child practices words in this manner. An unanticipated goal for the use of sign language has been the children's understanding of people who have a hearing handicap."

The Program

Computer Assistance in Speech Therapy (CAST) is a program that utilizes microcomputers in the remediation of speech and language deficits, as well as in the development of software in this area. The problems concentrated upon include articulation, fluency, and language development. The computer is used throughout several phases of the therapeutic program, from diagnostics to carryover review. For a child with articulation difficulties, for instance, a pretest consisting of words and sentences containing target sounds is shown on the computer screen. While the student reads the stimuli words, the speech therapist notes the errors and is able to determine a suitable starting place for articulation therapy. During the therapy program itself, the student is able to reinforce correct sound production through practice at increasingly difficult linguistic levels and at an increasingly rapid rate. Stimulus exercises at various degrees of difficulty are also utilized in carrying out therapy to increase fluency. For those in need of language remediation, programs designed to improve vocabulary and comprehension skills, as well as grammar and syntax, are used.

The second phase of the CAST program centers around the development of additional software. A review of computer software catalogs reveals that there is a substantial need for programs dealing with the problems of the speech-and language-impaired student. Specialists in speech and language therapy and computer programming are utilized in this segment.

The Students

Forty-two students in grades six through nine, including students in regular classes, the resource room program, and self-contained special education classes, participate in this program. The students meet from two to five times each week, according to their degree of deficit. The program can be adapted to other grade levels and to various achievement levels.

The Staff

CAST was developed by Kathleen McCarthy, a speech and language therapist with the Speech Services Unit. The program has the support of the Speech Services Unit as well as that of the school administration. It can, however, be implemented without support.

Materials and Facilities

A microcomputer is necessary to conduct this program, along with a tape recorder and tapes on which programs are stored. Other materials include formal tests, informal assessments, and other materials supplied by the Speech Services Unit.

Outside Resources

A background in BASIC programming is necessary if one is to create additional programs.

Overall Value

"*Computer Assistance in Speech Therapy* offers a highly motivational alternative to traditional speech and language therapy," says developer McCarthy. "Since this program has been in operation, student interest and attendance have increased. Students have become more willing to deal with their deficiencies. Inhibition and anxiety have been reduced, since the computer has infinite patience. All of these factors have contributed to improvement in students' speech and language skills."

Special Education
Communication Arts/Computer Education

Computer Assistance in Speech Therapy

More Information
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Special Education Supervisor: Robin Adams

On November 5, 1983, IMPACT II sponsored its first convention, in celebration of its Fifth Anniversary. It was held at the Dalton School in New York City. Over 350 teachers and administrators attended. Convention participants included teachers and administrators from school systems and educational organizations across the country that have adapted or are considering adapting the IMPACT II model.

John Cole

Computer Education

Barbara Miller

Elementary School Computer Education

Get Ready for Computers!

The Program

The purpose of *Get Ready for Computers!* is to give kindergarten, first- and second-grade children concrete experiences in programming, as a preparation for using school computers in the early grades. Initially the students are encouraged to experiment with the computer-like panel on the Big Trak truck, to explore its capacities for movement and memory. They are stimulated to recognize, name, and recall numerals and directional indicators. Then the students are taught the way to program change of direction, and the patterns of input. Pathways are laid out in colored tapes on the classroom floor. First orally, by estimation, and then through experimentation, the children devise programs for following the pathway, details of which may be recorded on cards for others to attempt. Eventually alternative programs are created for attaining the same goal. One example was "Make the Big Trak go from the blocks out the doorway." Four programs were created and compared to find the neatest or best one. The students, with the assistance of simple, teacher-made materials, learn to record and swap programs with classmates, and to find new and innovative ways of using the Big Trak.

The Students

Twenty-five kindergarten students were involved in the program, and 125 children (five additional classes) borrowed the Big Trak occasionally. In the classroom, small groups of children were involved in the program throughout the day. We hope to develop the program by making a Big Trak available to each class full time.

The Staff

Theodora Blackmon and Barbara Miller, who have been teachers for ten years, implement the program. Blackmon is an adjunct advisor on the supplementary staff for Laguardia Community College, and Miller's three-volume readiness program has recently been published by Hammond, Inc. The developers are involved in establishing a computer curriculum for P.S. 251, an early childhood magnet school serving kindergarten through second grade.

Materials and Facilities

The program can be implemented in any classroom with a Milton Bradley Big Trak and

Barbara Miller

with materials that are readily available—such as colored tape or markers, crayons, and paper.

Outside Resources

No outside resources are necessary.

Overall Value

The kindergartners involved in the program are highly motivated to learn to read numbers and symbols, to follow a left-to-right program, and to listen to and follow directions, point out Blackmon and Miller. "The activities lead to cooperative small-group activity and spur development of verbal skills." The program certainly could be used as computer readiness in a first- or second-grade or special education classroom.

More Information

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The Program

The purpose of the *Computerized Weather Station* is to simultaneously train students to be amateur meteorologists and to operate a microcomputer. Students learn to record atmospheric conditions with the aid of thermometers, anemometers and other weather instruments. This data is then fed into a computer by the children—where it is processed, resulting in a weather forecast for the following 12 to 24 hours. Daily forecasts are announced throughout the school and relayed to the other schools in the district by means of a computerized telecommunications network. Through this program, children also learn the fundamentals of BASIC programming, build their own weather instruments such as wind vanes and barometers, perform numerous experiments (like creating a cloud in a jar to learn what clouds are made of) that help explain the natural phenomena affecting our climate and weather, and learn to keep accurate ongoing records of weather data.

The Students

Over 60 pupils identified as being gifted in science, aged eight to twelve, have participated in this program over the past six months. This program need not be confined to gifted students; any student with average ability can participate. Children are organized into several small groups, with each group recording and processing weather data at least once a week.

The Staff

Richard Bollinger is a teacher of gifted science and has received several grants for innovative science programs. He has conducted many science workshops and inservice programs, and has received support from his administration and the district office. However, such support, though helpful, is not essential to the program's success.

Materials and Facilities

Access to a TRS-80 (or any similar) microcomputer is essential. A line-printer is also useful in obtaining a "hard-copy" of the daily forecasts. A *Weather Prediction Program*, written by Bollinger, is available. Several weather instruments, such as thermometers, barometers, and a wind vane, are also required. Many simple weather instruments may be constructed by the students.

Outside Resources

Trips to operating weather stations, such as the U.S. Weather Service at Rockefeller Center in Manhattan, are exciting and valuable.

Overall Value

"This realistic and functional use of the computer enables all students to participate in the computer revolution," says Bollinger. "As the children work through this program—which is process-oriented—their skills in observing, measuring, comparing, recording, and predicting will be improved."

Elementary School Computer Education/ Science

Computerized Weather Station

More Information

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Elementary School
Computer Education/
Mathematics

Computer Literacy in the Elementary Classroom

Paulette Criaris

The Program

Computer Literacy in the Elementary Classroom introduces children to the computer, with all its capabilities and limitations, and to its present and future role in their lives. In the first lesson, the computer is presented as a tool for the mind, unable to do anything for which a person has not "programmed" it. Professional terminology, such as memory and data, is included from the beginning and is later entered into a glossary of terms in each child's computer literacy booklet. This teacher-designed booklet is used as a way of pulling together the information each child gains in class discussions, individually, and through hands-on experiences. Literacy lessons include discussions on careers involving use of computers, practice in loading both high and low-speed tapes, and identification and explanation of types of hardware and software being used. The children are asked to collect timely newspaper and magazine articles that cover any aspect of computer use, for inclusion in their booklets. Towards the close of the program, students try to predict the possible future uses of computers. The programming lessons are based on the ability and experience levels of the children involved, and include an introduction to the BASIC language. Minimally, the unit ends with lessons on the use of graphics to illustrate the PRINT statement. The children rule a 16 x 64 grid screen on graph paper, and design a simple picture, their name, or just their initials. This drawing is then turned into a program that draws the picture on the screen, using only the most elementary of BASIC statements. More experienced classes have advanced to writing programs, including many BASIC statements, and illustrating their understanding of mathematical concepts as well.

The Students

One hundred and fifty students from the fifth grade are involved in this program, and are grouped according to reading level. Each group meets twice a week for 45 minutes, for a total of 11 lessons. When scheduling permits, fourth-grade students are included in the program. Books such as *Computers for Kids*, by Sally Greenwood Larsen, are used as teacher resources. A bibliography of other helpful books is available upon request.

The Staff

The program was developed and is currently implemented by Paulette Criaris. She is a fourth-grade teacher with 14 years of teaching experience, from kindergarten through the fifth grade. At present, she is also teaching computer courses through the district's inservice program. *Computer Literacy* operates without assistance, but cooperation with scheduling is necessary. The encouragement and support of principal, colleagues, and parents are invaluable.

Materials and Facilities

The class meets in a regular classroom containing two TRS-80 Radio Shack computers. One additional TRS-80 is stationed full time in the classroom of the fifth grade currently receiving instruction, to supply additional hands-on experience. Commercial software (e.g., *K-8 Math Program, 1980*, available from Radio Shack, and *Mentor Basic Math Skill Games, 1979*, available from Mentor Software), or teacher-generated programs should be available, both for illustration and to provide practice in program loading and saving.

Outside Resources

No outside resources are needed, but the rental of a film introducing the computer can be beneficial.

Overall Value

Says developer Criaris: "Computers as a part of everyone's daily life are now a reality. To remain competitive in today's world, our children must become computer literate." This program enables an elementary school to work towards that goal with a maximum number of children, a minimum amount of hardware, and the devotion of only one trained staff member.

More Information

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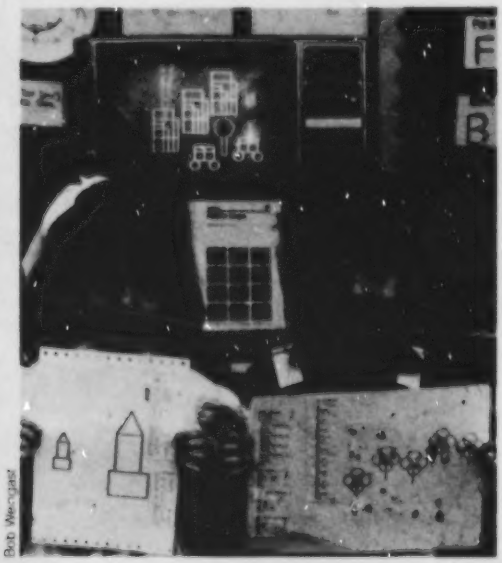
The Program

Creative Computing with LOGO Turtle Graphics enables students to develop computer competency by designing, writing, and debugging programs. The children solve programming problems by breaking them down into smaller parts. This problem-solving strategy is encouraged by the structure of the LOGO language. The language allows the students to explore different ideas and to solve problems in a friendly environment. Our philosophy is "LOGO bugs (mistakes) are lovable!" Mistakes provide motivation for thinking and learning. The children are introduced to the LOGO language and programming through role-playing activities in which they act as programmers and "Turtles." Mini-lessons are given when necessary. The children are assigned in pairs to work at the three Apple computers in the classroom throughout the day. They are encouraged to pool their ideas, strategies, and programs. They use simple programs as building blocks to more complex procedures. The children's programs are saved on discs and are also printed out, along with the graphic output. These printouts are mounted on file cards so that other students can study them, try them, or build on them for use in their own programs. Copies of students' and teacher's discs are available to adaptors.



Bob Weingast

The Students

Twenty-six kindergarten children participated in this program, which is adaptable through grade six, with minor modifications.

The Staff

Carol Seltzer, the teacher who developed and implemented this program, has taught early childhood classes for 19 years. She has taught a gifted kindergarten class for the past seven years. She learned the LOGO computer language in a course given by Dr. Seymour Papert, one of the developers of the LOGO language.

Materials and Facilities

Dr. Papert's book, *Mindstorms: Children, Computers and Powerful Ideas* (Papert, Seymour, Basic Books, Inc., NY 1980), which explains his vision of education for the future, is highly recommended reading. *Apple LOGO* (Abelson, Harold, Byte/McGraw-Hill, Peterborough, NH 03458, 1982) is another excellent reference book for the teacher. The program is most successful when computers are located in the regular classroom. This allows for greater scheduling flexibility and contributes to a more stimulating and creative environment.

Outside Resources

No outside resources are needed.

Overall Value

LOGO procedures encourage students to experiment and estimate, and to plan their work in a logical sequence. "The child uses everyday language to 'teach' the computer," developer Seltzer explains. "Students are motivated to experiment until a problem is solved. This affords them an opportunity to experience multiple methods of problem-solving."

Elementary School Computer Education

Creative Computing with LOGO Turtle Graphics

More Information

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Elementary School Computer Education

The Computer-Based Approach

The Program

The Computer-Based Approach program is designed to develop advanced cognitive skills in geometry, science, and communication arts, through computer-controlled instruction, in students shown to be academically gifted. The program relies on a combination of prerecorded computer programs and programs developed by the students themselves. The interdisciplinary approach trains the student to approach problems from several outlooks, and rewards this goal-oriented behavior with successful resolution of stated problems. An integral part of the program involves both class instruction in computer programming in BASIC and individual projects in which students write useful computer software.

The Students

Last year, the students included one entire fifth-grade enrichment class and other teacher-recommended students from fourth-, fifth-, and sixth-grade classes. Many special education students were also included. This program is easily adapted to other grades of students showing academic progress, and can be implemented in groups of various sizes.

The Staff

The program was developed and is implemented by Paul Weiner, who has taught at his present school for 15 years and has been the computer specialist for two years. Weiner has completed many programming courses himself. He has developed this program with a target population of advanced students and the support of the school principal.

Materials and Facilities

The program is conducted in a classroom situation, with 20 to 25 computers. The instructor is situated so that he can observe all computer operations. Students require computer notebooks and blank computer tapes. Individual instruction is developed by prerecorded computer programs.

Outside Resources

No outside resources are necessary.

Overall Value

Developer Weiner states: "This program rapidly develops a sense of self-accomplishment in students. Students progress at their own pace and develop computer programs that aid them in their solution of various problems in advanced topics, such as geometry, biology, and anatomy."

More Information

Paul Weiner
P.S. 11
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Brooklyn, NY 11238
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Principal: Sy Lerner

The Program

An Introduction to Computer Programming Through Game Design uses students' interest in video and computer games in motivating them to learn the BASIC programming language, and then to create their own games. The program involves 14 lessons on worksheets that are available to teachers. These worksheets include short sample programs that illustrate the programming concepts being introduced, such as loops and conditional statements, brief comments on key parts of the programs, and assignments for the students. The assignments require the students to use the concept they have just learned, in addition to concepts learned in previous lessons, in writing programs. An optional assignment is frequently provided for students wishing more challenge. Emphasis throughout the program is on students learning to use the sound, color, and graphics capacities of the computer. By the end of the program, the students have enough understanding and skill to create a wide variety of games.

The Students

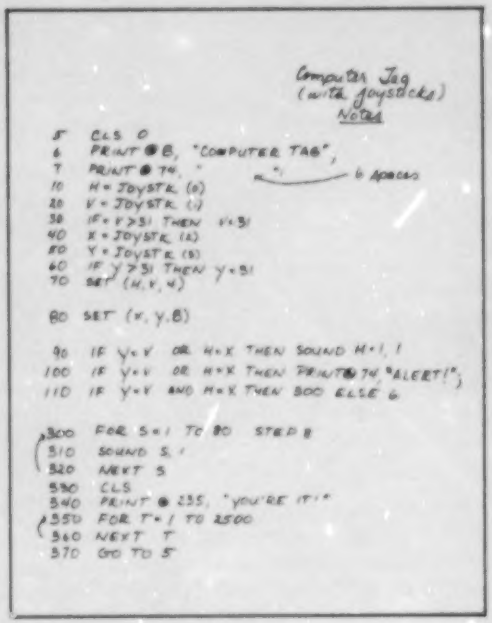
Twenty-one students in a fifth/sixth grade class are involved in this program. They are taught in two groups, according to ability level in mathematics. Most students are at grade level or above. They meet four times a week for four weeks. The sessions are 30 minutes long. This program could be used with seventh-, eighth-, and ninth-grade students. If only one computer is available, the maximum size of the group should be 10 or 11.

The Staff

The program was developed by Ray Godshall, who has been a classroom teacher for 15 years. He has been working with computers for the last three years. The program can be implemented by one teacher without staff support.

Materials and Facilities

This program is currently being used with one Radio Shack Color Computer, a pair of joysticks, and a color television set. (Extended BASIC is not needed.) A ditto machine is used to duplicate the worksheets. *Getting Started with Color BASIC* (distributed by Radio Shack Technical Publications) is used as a reference. With some modification, this program can be used with any computer that uses BASIC language.



Computer Tag
(with joysticks)
Notes

```
5  CLS 0
6  PRINT @ 8, "COMPUTER TAG",
7  PRINT @ 74, "                "
10 H = JOYSTK (0)                    <- 16 spaces
20 V = JOYSTK (1)
30 IF V > 31 THEN V = 31
40 X = JOYSTK (2)
50 Y = JOYSTK (3)
60 IF Y > 31 THEN Y = 31
70 SET (H, V, 4)

80 SET (X, Y, 8)

90  IF V = V  OR H = X THEN SOUND H+1, 1
100 IF V = V  OR H = X THEN PRINT @ 74, "ALERT!",
110 IF V = V  AND H = X THEN 300 ELSE 6

300 FOR S = 1 TO 80 STEP 8
310 SOUND S, 1
320 NEXT S
330 CLS
340 PRINT @ 235, "YOU'RE IT!"
350 FOR T = 1 TO 2500
360 NEXT T
370 GO TO 5
```

Outside Resources

No outside resources are needed.

Overall Value

The worksheets are concise and simple to use. They don't overwhelm the students, as do typical bulky programming manuals or textbooks. Says developer Godshall: "Student response has been very enthusiastic; many of the students currently using the program are staying after school for an hour each week, programming their own games and expanding their understanding of computer programming."

Intermediate School Computer Education

An Introduction to Computer Programming Through Game Design

More Information

Ray Godshall
Walden School
1 West 88th Street
New York, NY 10024
Telephone: 787-5315
Director: Annette Liberson

Junior High School
Computer Education

LOGO: A Dynamic Learning Experience

More Information

Stuart Neiderman
J.H.S. 111
35 Starr Street
Brooklyn, NY
Telephone: 574-0311
Principal:
Dominick Lavelle

The Program

LOGO: A Dynamic Learning Experience utilizes, LOGO, an interpretive language, because of its ability to bring out and enhance individual cognitive styles. The objective of the program is to enable students to be comfortable with, and in control of, the computer. This includes learning the elements of the LOGO computer language, learning the "subject matter" of Turtle Geometry, and developing problem-solving skills. Students are allowed a diversity of paths to reach course goals. As they begin to develop their own working styles and priorities, the students develop a sense of confidence that is carried over into other subject areas. Students are required to keep written records of the programming steps, and to transform these records into computer procedures. These procedures can be saved and shown to others, thereby raising the students' sense of pride and confidence. At the start of the program, an examination testing the students' knowledge of angles, angular measurement, and logic is administered. This examination is administered at the conclusion of the course in Turtle Geometry, and the results are compared with those of the first test. Comparisons have demonstrated a positive correlation between the LOGO/Turtle computer experience and growth in logical thinking and improved geometry skills.

The Students

The students in the Promotional Gates program are enrolled in LOGO/Turtle Geometry. The classes meet for 38 minutes daily, and consist of 20 students with varying achievement levels.

The Staff

No staff support is needed for the program. The teacher's role, after the initial introduction to the language, is to foster an interchange of ideas among the students, introduce new material when appropriate, help the participants choose individual projects—such as designing shapes and forms on graph paper—that can be duplicated by the computer; and create computer programs that perform mathematical functions. Stuart Neiderman, who developed and implements the program, is a candidate for a certificate in computer science and is the computer science teacher at his school.

Materials and Facilities

The class meets in the computer laboratory. Ten Texas Instrument TI99/4A computers are available, to provide each student with hands-on experience. Numerous rexographed and photocopied materials, including lists of the LOGO commands and vocabulary lists of computer-related words and terms, are provided by the instructor.

Outside Resources

No outside resources are needed.

Overall Value

The program permits each student to have a positive classroom experience. Turtle Geometry provides immediate rewards that reinforce the learning experience, and it fosters a strong self-image. Students who had found the classroom situation boring become enthusiastic about attending school. Within their microworld, students become secure enough to solve problems using different intellectual styles. Experience within the program brings life to subject areas previously perceived as uninteresting. "And the course provides students with programming tools that can be applied to other matters of interest and other thinking styles," is developer Neiderman's conviction.

Fonda Charne

Intermediate School
Computer Education/
Career Education

Computers and Careers

The Program

Computers and Careers enables students who are deficient in problem-solving skills and who have low aspirational levels to improve significantly in both these areas. Students are taught to write programs based on real-life career experiences. For example, after visiting a department store the students write programs to solve problems dealing with sales, inventories, commissions, wages, and deductions. Radio Shack's *Math for Everyday Living* is the commercially prepared software that will be utilized as a motivational device. Workbooks such as *Real Life Math Skills* and *Problem Solving in Math*, published by Scholastic Book Services, act as resources for various career-related problems.

The Students

The students met for 40 minutes, three to five times a week. Their achievement level in mathematical problem-solving skills improved on teacher-made tests. The content area can be adapted to lower- and higher-grade levels. Because of the real-life experiences and the exposure to computer-oriented careers, students aspire to careers they did not previously consider.

The Staff

The program was developed and implemented by Ruth Weber, who has been teaching computer science in addition to mathematics this past year. Weber has taken many computer courses and is presently teaching one in microcomputers to the staff of her school and in an inservice setting. The principal and assistant principal have been supportive and encouraging.

Materials and Facilities

The students meet in a newly established computer laboratory that reflects careers of the 1980s. It would be helpful to furnish the children with copies of the workbooks *Math for Shoppers and Salespeople* and *Math for Employment and Business*, (MDR, Inc.). Similar teacher-made materials may be used.

Outside Resources

Students take field trips to the "world of work" on a monthly basis. Visits to an insurance company, a bank, and a department store make their computer experiences a reality. Guest speakers whose career areas utilize the computer are invited to address students as role models.

Overall Value

"Because of the low aspirational levels of the students, the computer program will effect an attitudinal change and help them aspire to careers not previously considered," comments developer Weber. "Reasoning powers and problem-solving skills will improve—and help them achieve career goals. The careers of the 1980s are computer-oriented. The computer revolution is here to stay, and these students will participate."

More Information

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John L. Mancini, Jr.

High School
Computer Education/
Science

Computer Simulations as Instructional Aids

The Program

By using *Computer Simulations as Instructional Aids*, a teacher can readily present complex phenomena to students who otherwise would be unable adequately to visualize the concepts inherent in genetic statistics, the operation of the electric motor, or Millikan's Oil Drop Experiment. The students are introduced to the operation and manipulation of the microcomputer as an instrument for instruction. The microcomputer laboratory contains 12 computer stations. Working in groups of three, the students then perform a simulated experiment on the computer which has been previously loaded with appropriate programs that are available from software companies such as American Peripherals in Lindenhurst, New York or PASCO Scientific in San Leandro, California. Schott developed his own program for the genetic statistics experiment. Laboratory instruction sheets, tailored to the needs of both student and program, are used to assist in analysis of the simulation, followed by data collection. Students are then asked to form conclusions based on the simulated experiment. During this time, the teacher can circulate among the students, providing assistance and encouragement where needed. At the close of the period, which lasts from 40 to 80 minutes, instructions for writing a laboratory report are given. A brief quiz, testing the concepts learned, is administered on the following day. Samples of student laboratory sheets and related quizzes are available. The simulations can also be presented as demonstrations during a developmental lesson in the classroom.

The Students

Approximately 800 students of average ability, enrolled in Regents biology, chemistry, and physics courses, utilized this program last year. The students met for one laboratory session per week (40 to 80 minutes, depending on the course). The usefulness of the program depends totally upon the selection of appropriate computer simulations.

The Staff

Howard M. Schott, teacher of physics and chemistry at Murry Bergtraum High School for Business Careers, is the computer coordinator for the science department. The program has received invaluable support from the school administration.

Materials and Facilities

The program is best conducted in a laboratory organized with one computer station for each three to four students. The simulations can also be shown in the classroom, using one computer and a large video monitor. Duplicated laboratory sheets and quizzes are also needed.

Outside Resources

No outside resources are needed.

Overall Value

The program is ideal in that it provides access to demonstrations and experiments that could otherwise endanger both students and teachers. The cost of a simulated experiment is minimal compared to the cost of the actual laboratory equipment that might be needed. "Most important," says developer Schott, "the program has been accepted with enormous student enthusiasm. They are struck by the apparent simplicity of the demonstrations and consistently ask to return to the computer room to carry on their work."

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Principal:
Barbara L. Christen

Foreign Languages

Arena Romana
Arena est magna et pulchra. Romani arenam laudant. In arena feminae et aguedae et puellae ludos spectant. Magnae arenae etiam in Gallia sunt. Romani arenas in multis locis aedificabant. Arenae magnae sunt.

Elementary School
Foreign Language

Latin and Its Cultural Heritage

More Information
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Principal: Emil G. Giordano

The Program

The purpose of *Latin and Its Cultural Heritage* is to provide students with the opportunity to learn to love and appreciate the Latin language and the culture of ancient Rome. The sequence of learning Latin is listening, speaking, and then reading and writing (audio-lingual method). Children not only become more fluent in Latin, but also become more aware of the quotations and mottoes such as "Veni, Vidi, Vici" and "Tempus fugit," that exist in our media and everyday life. Latin improves the students' ability to read, write, and speak in their own tongue. The learning of Latin flows into all other curriculum areas. Through the readings on the Roman gods and goddesses, children develop deeper understanding of the world and people; the nature of monetary policy; the question of supply and demand; the importance of bronze currency; and Roman technology. The ideals of ancient Rome are examined by reading literary works such as *Julius Caesar* by William Shakespeare. Children gain perspective on their own social and political affairs through the words of Cicero, Crassus, and other articulate leaders. The program attempts to show the students that the classical ideas and experiences can help them gain a greater understanding of their own world. Through archaeological studies, students evaluate not only the daily life of Romans but also their art and architecture. Dramatizations, conversations, songs, individually made flash cards, picture albums, and crossword puzzles, create an atmosphere of enthusiasm for learning Latin. In other curriculum areas, materials and books are available in the classroom. If materials are scarce, children can refine their library skills through research, using the *Reader's Guide to Periodical Literature*. When all the general areas on ancient Rome are covered, children choose a particular area to concentrate on. Creativity in producing a method of communication with the group is encouraged.

Bob Weingast

The Students

Twenty-eight fifth and sixth-grade IGC students (Intellectually Gifted Children) participated in this enrichment program during the past year. The program can be adapted to other grades.

The Staff

Helen J. Zannotti developed and currently implements this program. She has taught 24 years, 8 of them in New York public schools. The program operates without assistance. Support has been received from the principal and parents.

Materials and Facilities

The program is conducted within the classroom, with bulletin boards displaying Latin identification of school materials and objects. A good classroom library and art supplies such as paper, clay, and charcoal are needed. Lists of basic materials, student work samples, and a bibliography are available.

Outside Resources

The use of school and public libraries is an asset to the program.

Overall Value

"The overflowing richness of Latin and its cultural heritage draws out the interests, talents, and teamwork of each individual student in the class," says developer Zannotti. "The study of an ancient living heritage has sensitized the students to a greater awareness of the world and human capabilities and potential."

High School Foreign Language

Spanish Conversation Through Drama

The Program

Spanish Conversation Through Drama is designed to increase the students' ability to communicate in the foreign language through the study, analysis, and performance of Spanish plays before an audience of students, relatives, and friends. It is also intended to give life and meaning to works that have been treated as literary documents, such as "Badus de Sangre" by Federico Garcia Lorca and "Entremeses" by Cervantes. In the process of preparing for performance, the students become aware of the universal nature of characters and situations, and also of the social and cultural experiences arising from the history of the country and the background of the characters they portray. Students are instructed to develop background material in order to become better acquainted with the lifestyle of the period in which the action takes place. Emphasis is also placed on the dress of the period, and an attempt is made to duplicate costumes when funds are insufficient to rent them. Concomitantly, there is an indepth study of vocabulary that enhances the understanding of the play. Translation is an integral part of the course, for no line of dialogue is spoken without complete comprehension. Scripts are made available to those with small roles, so that they too may participate actively in the understanding and performance of the work.

The Students

The program has been used for several years in the ninth through the twelfth grades. The school has also been fortunate to have City College of New York students participate in its productions. Students with a fairly wide range of ability take part in the program, even those with some oral communication disability. Speaking roles have always been provided for those whose knowledge of Spanish is quite limited. Classes have ranged from 20 to 35 students. The ideal number would be 25.

The Staff

Spanish Conversation Through Drama was developed by Paul Budofsky. Using native and non-native speakers, he has produced plays by Federico Garcia Lorca, Cervantes, and Tirso Molina over a period of some years. Budofsky is an adjunct associate professor of Spanish at New York University and Cooper Union, where he has also presented programs of drama, poetry, and

Paul Budofsky

music performed by high school students. *Spanish Conversation Through Drama* has had the enthusiastic support of the administration of the high school and the department of humanities at City College of New York (CCNY).

Materials and Facilities

Each student requires a script. Although in previous productions sets and costumes have been kept to bare essentials, funds should be available for these needs. Up to now, students have willingly made and paid for rental of their own costumes. However, the increased cost of some fabrics has made this more difficult.

Outside Resources

This program has been fortunate in having CCNY provide a theater and staff at the Aaron Davis Center for the Performing Arts. The high school has no theater of its own, either for rehearsal or performance. The plays, presented for two performances each semester, are extremely well-attended by students and parents.

Overall Value

Through the production of well-known plays, the students are given the opportunity to utilize the skill they have acquired in class and in rehearsals by communicating, not only with their fellow students but with audiences as well. In the process they become aware of many aspects of Hispanic culture. Their appreciation of the beauty of Spanish is keenly felt. "Shyness in the use of the language gradually disappears" is developer Budofsky's appraisal. "Perhaps the most important aspect of the program is the fact that student efforts are crowned by the applause which the demonstration of their skills ultimately receives."

More Information

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At the Fifth Anniversary Convention, developers and replicators/adaptors exhibited program materials and how teachers could take their ideas and go creative.

John Cole

Health
Education

Special Education
Health Education/
Science

Tacos, Burgers, and Pizza to Go

The Program

Tacos, Burgers, and Pizza to Go is designed to increase students' nutritional awareness by preparing various international foods in the classroom. A window-sill greenhouse helps grow some necessary "crops" such as tomatoes, parsley, lettuce, and corn. Shopping for the five basic food groups of international foods, and then preparing the foods, teaches children about food and nutrition around the world. Planning menus shows children different cultural factors influencing food choices and helps them develop the ability to make wise food choices throughout their lives. Children prepare such international foods as the Mexican taco, pizza, French omelettes, and hamburgers.

The Students

The program was initiated in the science curriculum of a class of Health Conservation (HC-30) students, ranging in age from ten to twelve years. The program could be adapted to grades one through six, and to other special education classes. It can be used with larger and smaller groups. The class meets two periods each week for nutritional education.

The Staff

The program was originated and implemented by Linda Colley, an HC-30 teacher with seven years of teaching experience. The National Dairy Council provides a guest speaker. The school dietician is another valuable aid in this nutrition program. The support of the principal and the special education supervisor is necessary in helping to acquire the international foods.

Materials and Facilities

Large window planters are desirable for growing vegetables. Nutrition kits, available from the National Dairy Council, Tupperware, or the National Geographic Society, are very helpful, as are filmstrips. Cooking materials include a hot plate, toaster oven, measuring cups and spoons, bowls, spatulas, potholders, recipe books, and pots and pans. A cooking corner is set up in the classroom. Taco shells, Chinese vegetables, and numerous other international ingredients are needed for the various menus.

Outside Resources

Some outside resources include trips to ethnic restaurants (e.g. Chinatown), trips to libraries to research different countries and to look at cookbooks, and visits from guest speakers such as the school dietician. Parents from different cultural backgrounds could also speak to the students about food choices.

Overall Value

Says developer Colley of her program: "*Tacos, Burgers, and Pizza to Go* is not only educational—it is also fun. Students get to watch vegetables grow, plan menus, cook foods, and then enjoy eating the food that they have prepared." Foods used could be as simple as nutritious international snacks or as complex as an international meal. The program becomes interdisciplinary, involving such subjects as mathematics, reading, social studies, writing, and art.

More Information

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Steven J. Braunstein
Special Education
Supervisor:
Josephine O'Brien

The Program

The purpose of *Modified Emergency—First Aid and Safety* is to provide learning disabled, culturally deprived students with the opportunity to acquire practical skills, self-help emergency and safety concepts, increased vocabulary and reading skills, and preparation for rendering meaningful service to the community. The complete course is taught in three ten-week cycles. Cycle one introduces concepts of first aid, with related vocabulary. Artificial respiration and poison control are covered. Cycle two deals with injury and related vocabulary. Open wounds, bleeding, burns, fire safety, and heat/cold emergencies are studied. In cycle three, concepts of sudden illness and trauma, with their related vocabulary, are introduced. Topics covered include heart attack, stroke, fainting, convulsions, and epilepsy, with emphasis on prevention as well as on first-aid techniques. The curriculum has been modified to permit extended practice in the classroom.

The Students

The goal of each student is to qualify for American Red Cross First Aid Certification. The program is offered to all students at the school. Forty students are registered for each ten-week cycle. Four classes of ten students each attend for five 45-minute periods a week. Reading level is not significant; however, the ability to follow directions is required.

The Staff

Jeffrey Weintraub is a New York City-certified special education teacher and a New York State-licensed Emergency Medical Technician, with an impressive list of certifications in the field. His extensive experience includes training officers for an ambulance corps and being crew chief of a volunteer ambulance corps.

Materials and Facilities

The program is taught in a large classroom equipped with standard audiovisual equipment: overhead projector, filmstrip projector, charts, and manipulative materials. When available from the American Red Cross, models and mannequins provide hands-on experiences. The American Red Cross *Standard First Aid and Personal Safety* text is used, as modified by Weintraub. A classroom library of related high-interest, low reading-level books is available to the students; i.e., Dean, Anabel. *Emergency Rescue* and *Air Rescue*. (Benefic Press, Chicago 1980). Instruction is oriented towards daily practical experiences.

Outside Resources

Representatives from the American Red Cross and the local fire department, as well as ambulance attendants and other guest speakers, are invited to class. Students are made aware of career information sources.

Overall Value

Says developer Weintraub: "This program is of particular value to learning-disabled students because it provides each of them with practical skills, expanded vocabulary, a greatly enhanced self-image, and motivation to increase knowledge." It also provides students with insight into the opportunities for, and responsibilities involved in, voluntary and entry-level employment in the health field.

Barbara Bakun

Special Education
Health Education

Modified Emergency—First Aid and Safety

More Information

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School for Career Development
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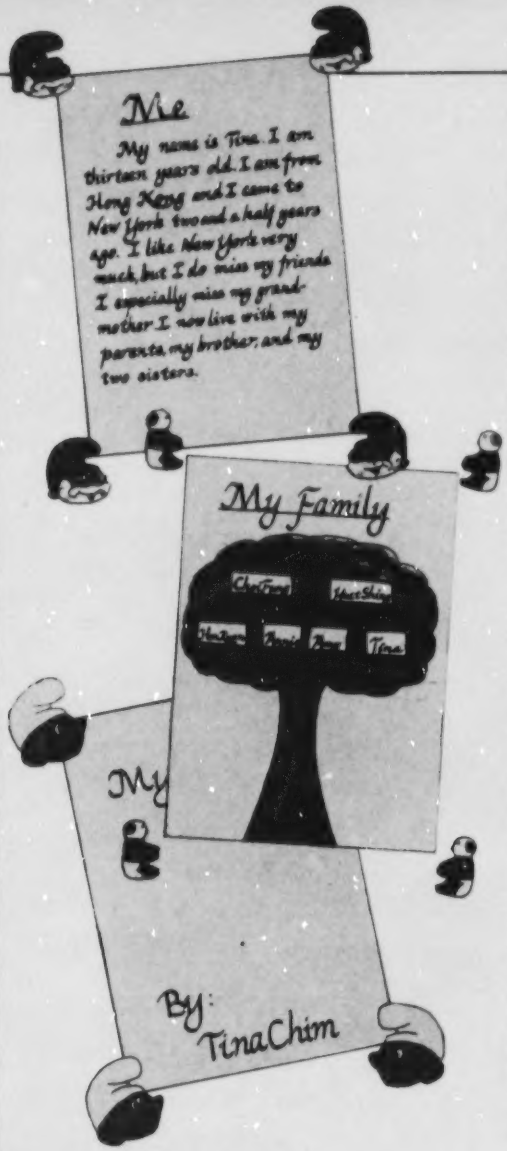
Principal:
Bernard Salzberg

Bill Stone (pictured below), 1982-83 IMPACT II Developer, demonstrated his program, *Juggling Our Way to Better Skills,* at the Fifth Anniversary Convention.

John Cole

Junior High School Home Economics/ Career Education

Entering the World of Work


Me
My name is Tina. I am thirteen years old. I am from Hong Kong and I came to New York two and a half years ago. I like New York very much, but I do miss my friends. I especially miss my grandmother. I now live with my parents, my brother, and my two sisters.
My Family
By: TinaChim

The Program

The purpose of *Entering the World of Work* is to prepare students for employment. In the first unit, students learn how to apply for jobs. They tape scripted interviews they have written, using job opportunities such as newspaper delivery, baby-sitting, and snow shoveling. This gives the students experience in facing real-life situations. A second unit utilizes the text *Me: Understanding Myself and Others*, and focuses on how to use personal interests, attitudes, personality, and other aspects of human development to enhance performance. The learnings are reinforced through crafts and calligraphy projects that help students evaluate their background and experiences. Students are assigned a choice of projects: a ten-page autobiography; a ten-page booklet describing an interest or hobby; or a story that will help a child cope with a new experience, i.e., "My First Day at School" or "My New Baby Sister Comes Home." Calligraphy for autobiographical stories and essays and crafts for creating handiwork such as key holders, pillows with needlework of original designs, and pencil holders made with cans that have stencilled designs, are taught in conjunction with the projects. These skills enhance the subject matter.

The Students

Two hundred students from grades seven and eight are involved in the program. They meet two or three periods a week. All achievement levels are included.

The Staff

Harriet Kean is a home economics teacher. She has developed innovative programs for the handicapped and has supervised an arts and crafts summer program in Livingston, New Jersey.

Materials and Facilities

The following texts provide excellent reference material. Riker, A. *Me: Understanding Myself and Others* (Peoria, Illinois: Bennett Publishing Co., 1982); Eager, Fred. *The Italic Way to Beautiful Handwriting* (New York: Macmillan Publishing Co., Inc., 1967). Materials needed to conduct the program include tape recorder, calligraphy supplies, crafts supplies, and a large room with a chalkboard.

Outside Resources

No outside resources are necessary.

Overall Value

"The program helps the students develop the self-confidence, attitudes, skills and awareness that it takes to approach the world of work," states developer Kean. When the program is completed, the students know how to approach a job opportunity in a realistic and positive manner.

More Information

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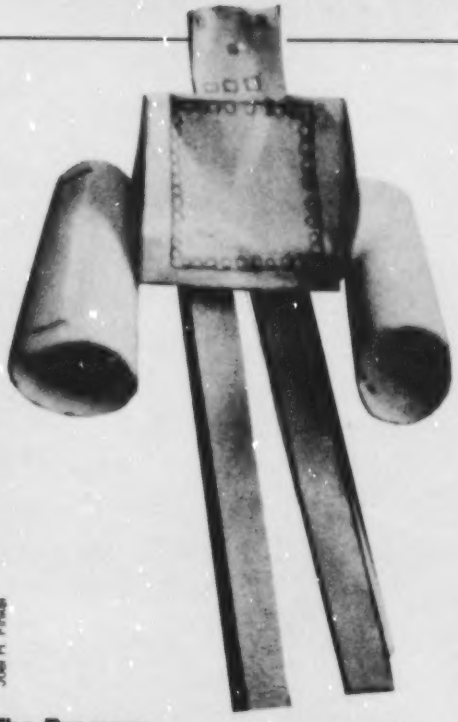
NY 11420
Telephone: 843-2260
Principal: John Baxter

Mathematics

Betsey Purinton

Elementary School
Mathematics/Art

Mathematics Through Art and Creative Writing



Joel H. Finkel

The Program

Mathematics Through Art and Creative Writing selects artistic students and students interested in art who are one or more years below grade level in mathematics, and significantly reduces the differential between desired level and actual level. In this program, mathematics is taught through art and creative writing activities, as opposed to traditional analytical methods. The students will actually construct geometric shapes (e.g., cube, cone, pyramid, cylinder, tetrahedron, sphere) from drawing paper, using a ruler to plan the designs. Then, using the basic shapes they have learned, they will construct paper sculptures based on those shapes. The students also learn to plan designs, charts, and pictures on graph paper, using Cartesian Axes. There is also a problem-solving component aimed at aiding students to learn to read verbal problems. This component uses cartoon characters developed by the teacher to help students remember key vocabulary words. Creative writing activities are utilized to reinforce and encourage verbalization of mathematical concepts learned. The children are encouraged to write poems and compositions about the shapes and paper sculptures.

The Students

One hundred and fifty students participated in this program during the 1981-1982 and the 1982-1983 school years. The classes met once a week for 40 weeks, and there was a 20% increase between pretest and posttest scores in the first year. Current scores for this year's posttests are not yet available. The program can also be used as enrichment for elementary school students who are on grade level. It can be used with small groups or class-size groups, depending upon availability of materials.

The Staff

This program has been developed by Joel Finkel over a period of 14 years, during which time he has been an elementary school teacher. It has been facilitated by a paraprofessional for the past two years. The program can be conducted in the normal classroom situation or with small groups.

Materials and Facilities

The primary material required is 50-lb. white or manila drawing paper. This should be coupled with a coloring medium of some sort (magic marker, watercolor, crayons or craypas in respective order of preference).

Outside Resources

No outside resources are necessary.

Overall Value

"Usually when children are told to open their math books to begin their lesson, their faces droop; with this program they smile," says developer Finkel. "Learning mathematics with this program is highly motivating and, in addition, the children are exposed to a great deal of art work."

Joel H. Finkel

More Information
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Principal:
Margaret Williams

The Program

Economics—On Your Own is a program aimed at enabling average and above-average students to gain enrichment and stimulation from real-life situations. They are asked to utilize divergent thinking in problem-solving situations. The program is individualized and open-ended, allowing for varying student interests, abilities, and learning styles. The children are asked to imagine that they are out on their own in this great big world. They are asked to select a job, using *The New York Times* classified ads, if children are able to read them; otherwise, the teacher may create classified ads that are geared to the students' reading level. They must calculate their yearly/monthly/weekly salary, and then decide where to live. They discuss the options open to them, and the ways they interrelate; e.g., type of domicile, distance from place of employment, monthly payments, and quality of neighborhood. The children then set about furnishing and equipping their new home, using home furnishing department store flyers, catalogs, and newspaper ads. They are limited to spending a fixed amount of money, based on their yearly salary. The next step is to set up a menu for one week, and from this to write out a food shopping list. Again, they must use supermarket flyers to go shopping, and calculators to calculate monies spent.

The Students

Forty students from the third-, fourth-, fifth-, and sixth-grade gifted mathematics groups participate in this program. They meet for one to one and one-half hours each week throughout the school year. This program can be used with average third, fourth, fifth, and sixth graders.

The Staff

Harriet Hamburger is the mathematics laboratory instructor at the school. She is teaching the mathematics gifted program and is implementing this program. The principal is very supportive of the program.

Materials and Facilities

Economics—On Your Own is taught in the school's mathematics laboratory. The children use calculators, the TRS-80 computer, *The New York Times,* store catalogs, and supermarket flyers. This program can be implemented easily within the regular classroom setting. A list of outside resources and basic materials, and a course outline are available from the program developer.

Outside Resources

Outside resources are not absolutely necessary. However, parents can discuss job options, children can visit supermarkets, and guidance counselors can talk to children about career education.

Overall Value

Says developer Hamburger, "This program relates mathematics to everyday experiences. The children learn the value of the dollar and realize what the necessities of life are. They gain a healthy respect for their parents and other adults." The program also helps children improve problem-solving abilities. It allows for enrichment, divergent thinking, and individual learning styles.

Elementary School Mathematics/Career Education

Economics—On Your Own

More Information

Harriet Hamburger
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Forest Hills, NY 11375
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Principal: Eleanor Levy

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Elementary School Mathematics

Mathematics: An Inter-class Approach

More Information
Irma F. Most
P.S. 220
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Forest Hills, NY 11375
Telephone: 592-3030
Principal: Marcia Knoll

The Program

Mathematics: An Inter-class Approach groups sixth graders according to their mathematical proficiency (as measured by the citywide mathematics competency test); diagnoses their weaknesses; and provides a prescribed plan to correct problems and meet the varying needs, abilities, interests, learning styles, rates of learning, and achievement levels of the children involved. Three groups were formed. The basic format is the same for all groups, providing alternate ways of learning mathematics through optional media resources and varied group experiences and activities. Every morning, each group meets and the teacher checks homework, reviews the previous day's topic, introduces a new topic, and holds individual conferences. The children are free to move about the room fulfilling their "prescriptions" by selecting materials from multimedia resources such as filmstrips or records, and/or participating in group activities. Each group has a designated bulletin board where the teacher displays progress charts, remedial lists, and honor work. There is a *"Please help me"* list on the chalkboard. A child signing in on it gains immediate attention from the teacher. The daily homework assignment for each group is also posted there. There is a mathematics test every Friday, based on material taught. At the end of each month, a child's progress is evaluated by the number of prescribed activities he/she has completed. A letter is sent to a parent whenever four or more incomplete assignments are disclosed. Every afternoon, during a 45-minute conference period, the teacher is available to those needing or requesting special assistance and/or tutorial help.

The Students

Ninety-seven sixth graders, ranging in age from 10 to 14 years and having mathematical achievement levels of 3.3 to high school (99th percentile), participate in this program. This program can be adapted to any grade level and class.

The Staff

The program was created and is administered in its entirety by Irma F. Most. It was planned and developed with the full support, assistance, and encouragement of the principal. The program developer has been a classroom teacher for 20 years, during which time she has taught second, fifth and sixth grades.

Materials and Facilities

The developer's homeroom classroom is the sixth-grade mathematics laboratory. There are enough desks and chairs to accommodate the largest group, and colorful mathematics-interest posters decorate the room. Bookshelves and tables are used to define informal learning stations, activity centers, and game areas. There is a variety of learning materials: flashcards, filmstrips, records, contracts, tapes, blocks, cuisinaire rods, and sundry mathematics games. Also accessible are hand calculators, a filmstrip projector, a tape recorder, a radio, a phonograph and an overhead projector. The children may also use the school library and media center. There is equipment such as: a Radio Shack TRS-80 computer, a tach-o-flasher (a device that is attached to a filmstrip projector to flash material intermittently onto a screen, to develop automatic responses to number facts), and a Borg-Warner Systems 80 video machine.

Outside Resources

The advanced mathematics group was given the opportunity to participate in a two-hour computer workshop that met for six weeks at Queens College. The fees for the course were paid by the Parents Association. In school, students have the practical use of a TRS-80 computer. Every year, the entire sixth grade participates in an hour-long program conducted by the chairperson of the mathematics department from the local junior high school. A slide show is presented demonstrating the mathematics courses that will be available to students in the seventh grade. This term, Junior Achievement sent a representative to introduce sixth graders to "Basic Business Economics."

Overall Value

Says developer Most: "Last year, my entire sixth grade class scored at or above grade level after having been exposed to this program. What is unique about the approach is that it tailors tasks to the individualized learning style of each group, and to the individuals within it, by giving them alternatives for the learning process. Children are encouraged to develop self-confidence, independence, and the responsibility for their own learning. Their parents seem pleased with their enthusiasm for the program, their academic achievements, and their development of positive attitudes toward school, the learning process, and themselves."

The Program

Planting Mathematical Concepts is a program that collects natural materials from the environment surrounding the school and uses them to develop mathematical concepts. Jefferson Park, an area near the school, was selected, and seeds and leaves were collected from a variety of trees. The seeds and leaves were used for sorting, counting, and comparison. The classroom was equipped with tables on which trays and boxes were set up to allow for sorting, classifying, manipulating, and observing the collected materials. Since cooking is also an integral part of the program, a cooking area was provided for snack preparation. Potatoes, pumpkins, and other foods were brought in and cooked by the children. These foods were used to explore and develop an awareness of primary mathematics vocabulary and concepts. Science was an important part of these investigations, as prediction, observation, investigation, and conclusions were employed. Class discussions were recorded in the form of charts, graphs, and recipes.

The Students

Twenty-seven children were involved in the program last year; 17 from kindergarten and 10 from first grade. The children were average and above average in achievement, and the program was conducted daily. *Planting Mathematical Concepts* can be used in any primary classroom, kindergarten through second grade. It can be used with groups of various sizes.

The Staff

William Ryley developed and implemented this program. He has seven years of experience in using neighborhood environments. He was assisted by student teachers and supported by the director of the school. The program needs the proximity of trees, and scheduled weekly walks to collect materials.

Materials and Facilities

The classroom can be organized to accommodate a variety of experiences. Individual sites can be designated for investigating materials through the use of magnifying glasses and a primary balance scale. The class investigated leaves, roots, stems, seeds, and seed pods of various plants. Activity areas were provided for sorting trays, large and small. From time to time, an art table replete with crayons, oaktag, glue, and seeds was set up for children to make cards and construct other projects. Newsprint, crayons, and a variety of the natural materials they collected were used to make rubbings, a print of the leaf showing its shape and vein formation. There are many more potential projects: collages of varying textures, space for small-group cooking activities, a sunny window to germinate seeds, and a meeting area for sharing and developing language experiences and charts. Materials needed include magnifying glasses of different sizes—two sets, a tripod magnifying glass, planting trays, plant pots, soil and rooting media, beans of several types, a hot plate, a colander, a toaster oven, two large bowls, three cooking utensils, sorting trays, sorting bowls, two vegetable peelers, two apple corers, a grater, a set of cookie cutters, two cooking pots, two cookie sheets, two cutting boards, and two rolling pins. An annotated bibliography is available.

Outside Resources

Valuable additions to the program would be walks to neighborhood parks, lots, or streets; visits to the public library to collect books; a trip to the American Museum of Natural History; and contributions of fruits, vegetables, and plants from parents.

Overall Value

This program relies on children's curiosity and their natural desire to collect and explore things in their environment. According to developer Ryley, "Scientific and mathematical concepts and vocabulary are developed, using concrete materials and actual experiences that children find of interest." These materials are readily available and easily adapted to your own classroom.

Elementary School Mathematics

Planting Mathematical Concepts

More Information

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Junior High School Mathematics

Teaching Geometry Through Learning Styles

More Information

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Director: Helené Hodges

The Program

The purpose of *Teaching Geometry Through Learning Styles* is to reach those students who have evidenced low rates of academic achievement in mathematics, negative attitudes towards school mathematics, and a rejection of the traditional educational environment. It is a program that uses Contract Activity Packages (CAPS) and Multisensory Instructional Packages (MIPS) that contain teacher-made materials. CAPS include pre- and post-tests, as well as spelling tests, and ten activity sheets that are required for completion of each unit of study. MIPS include games that reinforce the skills developed by CAPS. Since most of the students involved are tactual learners, there is great use of charts, mobiles, and other manipulative materials and games to reinforce activity sheets in the contract. Students construct geometrical shapes, make string-art designs, use task cards, take puzzles apart and put them together again, and create designs of their own based on the geometrical shapes.

The Students

Four seventh-grade classes of 15 students each participated. The children were all underachievers whose scores were as low as second-grade level. The classes met six times a week. The program can be adapted to grades four, five, and eight, and to smaller groups, and can be used with all ability levels.

The Staff

Iris Novak, a mathematics teacher with 15 years' experience in junior high school, developed the program. The teacher must have good organizational abilities and a capacity to move from one group to another with ease. The program has the full support of the director and can be implemented without additional staff. Time must be allotted for duplicating, laminating, and constructing materials such as task cards, contracts, game boards, and audio tapes.

Materials and Facilities

A conventional classroom was redesigned to provide a more relaxed environment; the room was opened up so that the students could become more independent. A rexograph or copy machine, oaktag, crayons, markers, string-art designs, geoboards, contact paper, scissors, rulers, rubber cement, yarn, needles, rubberbands, and tape are required.

Outside Resources

Helpful but not necessary are walking trips for identifying and associating real objects with their geometrical names (e.g., window-rectangle, tin can-cylinder, ball-sphere).

Overall Value

"The program is highly motivational," says developer Novak. "It gives the children a new way of looking at their world, at the same time that they are developing cognitive skills." As one girl put it, "Math is getting to be fun."

Susan Roos

Intermediate School Mathematics

Fun and Games with Math

The Program

Fun and Games with Math is a program that allows the students to develop their own games and puzzles, using mathematical concepts and strategies. Each student, or pair of students, must develop a game idea over the course of one month. The project must be mathematics-related and suitable for children's use. The game can be fairly simple or very complicated, but it must be sturdy, and neatly and clearly presented. The students learn to develop their own rules and strategies for playing mathematics games. They begin to understand not only the broad concepts—fractions, place value, decimals,—but also how a project is developed and refined. At the root of this kind of program is the idea that one can think a problem (game or puzzle) through to its logical end. The strategies of the games vary. Depending upon whether the object of the game is to finish with the highest or lowest number of points, a student must choose the correct operations with whole numbers, percents, or fractions. Some of the games deal with logic or problem solving. A student must answer a riddle; a correct answer advances, an incorrect answer receives a penalty. Most of the game strategies utilize accurate computation skills, good decision-making ability, and a little bit of luck in order to win.

The Students

The entire sixth grade participated in this program. The children worked by themselves or in pairs. The program could be used by youngsters at any achievement level, but the best results are probably found in the fifth through the eighth grades.

The Staff

This program was developed by Susan Roos, a mathematics teacher in the middle school at Packer Collegiate Institute.

Materials and Facilities

The program can be implemented in any classroom provided you have a few large tables on which to work and to display the games.

Outside Resources

No outside resources are needed.

Overall Value

Children see firsthand the value of creating a mathematics game that will be usable and fun for the entire class. They must follow through on an idea and develop their own strategies and rules for making a game work. Says developer Roos, "I cannot begin to explain how much fun we have had with our math games throughout the year. Each student explained his/her game to the class and was allowed to play with other projects. *Fun and Games with Math* is now a permanent part of our sixth-grade math curriculum."

More Information

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Headmaster: Peter T. Ray

Intermediate School Mathematics

Mathematics Through the Stock Market

The Program

Mathematics Through the Stock Market involves teaching units on fractions, decimals, graphing, and money word problems through a class's actual participation in the stock market. The program begins with a study of the basic history and background of our American economy, leading toward the establishment and growth of the stock exchange. Utilizing the children's knowledge of Macy's, Sony, Design Craft Jewelry, and other companies and their products, students and teacher formulate a list that will eventually contain the one stock the class chooses to purchase. The purchase is made after each student brings in an investment of one to three dollars, which is usually enough to purchase most stocks. After the shares are bought, further in-depth lessons are taught in relation to "our" company. Learning about commissions, dividends, profit, and loss now takes on real meaning when each student's actual dollars are invested. Mathematical problems involving the four operations studied become significant as the class explores changes in the value of their stock. Learning how to read newspaper stock tables lends itself both to discussions and to activities relating to fractions. As eighths change to fourths and halves, fraction equivalents lead to more complex examples. The progress of the class's stock is monitored closely, using the different graphing techniques available—essentially line, bar, pictograph, and circle. Mathematics becomes an integral part of the students' adventure into the stock market, and development of the basic skills receives an importance and interest rarely experienced in the classroom.

The Students

Mathematics Through the Stock Market was initially created for 120 junior high school seventh graders. The program has since been modified to include as few as 30 students and as many as 150. The program has also been in operation with sixth-, eighth-, and ninth-year students. Originally developed for youngsters with problems in achieving, the program has since demonstrated its adaptability by successfully including the participation of children with a wide range of achievement levels.

The Staff

Kenneth Solomon, a mathematics teacher with 12 years of teaching experience, developed the program and implemented it with the cooperation and support of fellow-teacher Andrew Kover. Presently, the program operates with Solomon alone, under the supervision and guidance of the school director.

Materials and Facilities

Mathematics Through the Stock Market requires only a classroom and small supplies of oaktag, colored pens, and chalk. The oaktag and pens are used to devise worksheets and activity cards that reinforce the lessons and utilize the stock market experience. Rexographs may also be used to further supplement the classwork. Colored chalk is important for board work on charts and graphing. Slides, filmstrips, and films available from the New York Stock Exchange can also be used as a means of increasing the students' knowledge of how the stock exchanges conduct business. It is advisable to set boundaries for each child's investment; one to three dollars should be sufficient.

Outside Resources

Field trips to the American and New York Stock Exchanges are very valuable. Also helpful are trips to brokerage houses, to the New York office of the company chosen to invest in, and to the Museum of the City of New York—which has an excellent exhibit on the history of the stock exchange. Films and speakers are available to enhance student understanding of the private enterprise system in the United States.

Overall Value

Participation in the stock market can be the key to increased motivation in the classroom. Since students now have a real stake in their company, the knowledge required to understand the factors surrounding its existence become significant. Fractions, decimals, and graphs emerge as important tools and skills necessary for solving real problems. Students perceive the relevance of their mathematics lessons and become enthusiastic learners. "Along with this newly acquired interest, the level of achievement for your students will rise," says developer Solomon. "I have found this positive learning experience to be the most beneficial approach to mathematics for my students."

More Information

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Director: Jacqueline Ancess

The Program

Gaming in Middle School Mathematics employs a variety of gaming techniques to promote the learning of mathematical facts, skills, and concepts. Throughout the school year, students participate in all types of large- and small-group gaming experiences ranging from "Countdown," a full-class division game, to "Hexagon," a game for three players which gives students practice in determining the prime factorization of composite numbers. Each game, whether teacher or student directed, is explained thoroughly with respect to directions, anticipated learning objectives, and expectations in individual and group behavior. Students are requested, at the end of each game, to share their thoughts about the game's effectiveness, and they are encouraged to offer criticism and suggestions. Teachers interested in replicating this program may request a packet of information which includes the objectives of the program, ways to effectively use gaming techniques, and the descriptions of 20 games.

The Students

The program and the games are flexible and can be modified to fit into almost any program, from second through eighth grade. The variety of gaming techniques offered in this program allows the teachers to "pick and choose" games that are most appropriate for their students and their students' needs. This program was started nine years ago in a fourth-grade public school classroom, and was modified this year to meet the needs of the middle school mathematics students at Professional Children's School.

The Staff

Gaming in Middle School Mathematics was developed by John Sullivan, who has been creating educational games since he started teaching nine years ago. His ideas have been shared with teachers through state and local workshops, magazine articles, and two Board of Cooperative Education Services grants. One other teacher has used this program at his school; and the middle school principal not only supports it but enjoys participating in its process.

Materials and Facilities

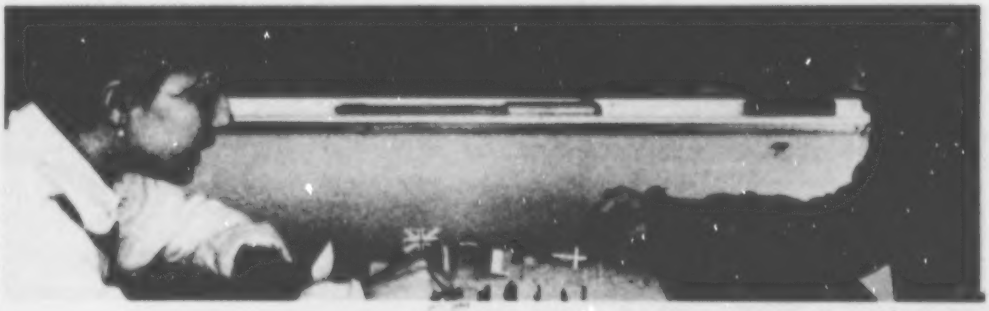
The replication of each game requires some amount of time, but the raw materials include little more than what can be found in a teacher's supply cupboard, namely posterboard, index cards, and dice. Storage of the games is minimal, and all activities take place within the parameters of the classroom.

Outside Resources

No outside resources are needed.

Overall Value

Through gaming, the students acquire a faster recall of facts and a better understanding of mathematical skills, in a way to which they can look forward. Gaming can be an alternative to the endless pages of drill work found in textbooks, or it can provide a necessary motivation for doing the endless pages of drill work found in textbooks, depending upon the techniques one chooses. More important, gaming provides a positive interaction between the teacher and the students and the students with each other. Necessary preliminary work by a sensitive teacher can make this happen. "Finally," says developer Sullivan, "gaming can provide students with the opportunity to take part in the planning of their own education, a role which can greatly enhance how they feel about themselves."



Betsey Purinton

Intermediate School Mathematics

Gaming in Middle School Mathematics

More Information

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Director: Carol M. Lane

High School Mathematics

The Cross Product

More Information

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Principal: Victor Herbert

The Program

The Cross Product is a program that allows students to swiftly grasp several basic operations: addition and subtraction of unlike fractions, the division of fractions, and the comparison of fractions. The traditional approach to adding or subtracting unlike fractions involves finding the least common denominator, and then the conversion of each fraction to that new denominator. Similarly the division of fractions is also convoluted into an often mysterious two-step rote process. The Cross Product method is a simple and natural way of adding, subtracting, and dividing fractions. Once learned, all the above operations can be done mentally, and the answer immediately written. Classroom contests are held to demonstrate the effectiveness of the method. Explanatory sheets prepared by the developer are available to interested teachers.

The Students

Over 150 students have been taught this method. The basics can be taught in a week of five 40-minute sessions. The method can then be expanded to include other topics on fractions. A prerequisite is that students know the fundamental operations of addition, subtraction, and multiplication of whole numbers. Given this, a third grader can master the operations on fractions. Higher-level, academic mathematics students can use the method on algebraic fractions.

The Staff

Timothy Lee developed the method and has used it whenever the occasion arises. He has taught at the secondary level for nine years, and at the college level for three years.

Materials and Facilities

A chalkboard, chalk, and eraser are the essentials for conducting this program.

Outside Resources

No outside resources are needed.

Overall Value

This method provides a simple and direct way of "doing" fractions. "It can be taught to any student who has learned to add, subtract, and multiply whole numbers," says developer Lee, and "students genuinely enjoy using this method; it does not generate math anxiety. The overwhelming response by students who were taught the method was 'This is so easy; why didn't they show us this in elementary school!'"

There one was a boy who had a pet dog
he sat on a log and he turned into a fly
There one was a guy that turned into
a fly and had to buy a new right eye
boy Jay and Graham and someone
write a boy Jay shut up boy ill sx to.
There one was a fly who bought a tie he
ate some pie and it came out his eye

Elementary School Music/Art

March! Music, Art, and Reading—A Creative Happening

More Information
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Brooklyn, NY 11226
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Principal: Aaron Friedman

The Program

March! Music, Art, and Reading—A Creative Happening is a program that utilizes art and music as a source of enrichment, creative expression, and reading improvement. A group of underachieving students in the sixth grade (two or more years below level in reading) enter the resource room, which is divided into five experience centers. At each of the centers, the students have an opportunity to explore with color and sound, become familiar with Seurat, Van Gogh, Strauss, Tchaikovsky, and other famous artists and composers, and build their reading skills with materials centering on these experiences. A broad range of activities has been designed for the experience areas. In one experience area, students examine a series of large prints. The diverse styles of the artists are discussed. A brief biographical sketch of each artist is read to the group. Students are then given an opportunity to create their own works, either imitating the style of one of the artists or using their own unique approach. To complete this experience, students deliver a brief biographical sketch of themselves as they explain their style to the group. In the reading experience area, students discover a varied collection of resource books including *The Music Book* by Eunice Boardman and Barbara Andress (New York: Holt, Rinehart & Winston, 1981) and *Creating with Paper* by James Seidelman and Grace Mintoyne (New York: Crowell-Collier Press, 1967), and materials such as sandpaper, cloth, wood, and reproductions of famous paintings. At this center they use kits and audio tapes that focus attention on different styles of music and art while affording an opportunity to practice a broad range of reading skills. At another activity center, students will listen to the diverse styles of classical modern composers. After each selection is played, they have an opportunity to discuss their reactions to the style of music. They then draw a pattern sketch of the feelings a particular style gives them, or create an image with a theme similar to that conveyed in a song.

The Students

Twenty-five sixth-grade students participate in the program. These students are all reading two or more years below level, as measured on the standardized test in the fall. The majority of the children have little or no background in the area of art or music. The program can be adapted for students on different grade or achievement levels.

The Staff

Susan Marinoff, a reading resource teacher, developed and now implements the *MARCH* program, with the full support of parents and administration. The use of paraprofessionals or parent volunteers is needed to insure the program's success.

Materials and Facilities

This program can be conducted in a regular classroom, preferably one that can be divided into learning centers or areas. Materials needed include paper, paints, markers, crayons, books on music and art, an assortment of records, and art prints and reproductions. A card file of creative music, art, and reading activities, a series of plans, a bibliography, and a curriculum guide have all been prepared to assist the teacher eager to provide students with a creative encounter with the arts.

Outside Resources

Trips to the Brooklyn Museum, the Museum of Modern Art, the Metropolitan Museum of Art, and Lincoln Center are valuable assets to the program. Visits by neighborhood artists and musicians enhance the program, since they provide role models for the students. Visits by the instrumental music teacher and several members of the school band allow students hands-on experience with brass and woodwind instruments and serve to keep motivation and interest at a high level.

Overall Value

In this program, students have shown a great change in attitude. Attendance in the pilot group has surpassed that of other classes by 12%. Children are eager for this creative outlet, the chance to create something that truly represents them as unique individuals. Developer Marinoff says: "For many of them, a whole new world of interests has opened up. And the most impressive result of all has been the increased use of the library, the self-directed desire to know about the artists met in the program, and the marked improvement in the ability to ask, and answer, questions that require critical levels of thinking."

The Program

Creativity and Self-expression Through Songwriting develops reading and writing skills, concept formation, expression of feelings, musical ability, and problem-solving techniques through the process of creating an original song. Students can begin with a familiar melody; or they can create a melody, either individually or as a group, by using a keyboard instrument (piano, synthesizer) or xylophone (Orff instruments); or they can sing or hum a melody along to guitar chords. The creation or adaptation of a melody depends on the age and skill level of the students, as well as on the musical ability of the teacher. Students then discuss the feeling(s) they wish to express, as well as the story line of the song. This can be done as a whole group, in groups of two or three, or individually. Students then work on the first line of melody, developing a phrase or sentence that fits rhythmically, makes sense, has good syntax, and functions well as the opening line of the story of the song. Next, they consider what rhyme they need (i.e., what word they will need to rhyme with), and what needs to be said next in the song. Through this process, they develop a sense of concept formation, cooperative group problem-solving, and emotional self-expression. The length and complexity of the song depend upon the resources of the group; the whole process of writing a song can take as little as one class period or as long as five or six. Instructional materials (techniques and methods for the teacher) will be provided by the developer of the program.

The Students

The program has been used for three years, in both public and private schools, with children from age five through junior high school. It is easily adaptable to high school students as well. Students have a wide range of ability, and classes range from 7 to 35 students. The program is most effective with smaller groups, ranging up to about 15 children. Classes generally meet twice a week; and the program can be as brief as one class period. It can be used as a long-range curriculum in communication arts, cognitive development, and music, culminating in the writing of larger pieces (such as musicals) or in the performance of the song(s) for parents or for the general public.

The Staff

The program was developed by James Zimmerman, who has brought it to a culmination many times in public performances at the Caedmon, Manhattan East and Isaac Newton Schools. "The Empire Strikes Out," "Alex in Foodland," and "Time for a Change," have been created, and songbooks of lyrics and melody have been written. The program is enthusiastically supported by the Caedmon School and its Parents Auxiliary. It does not require assistance, and can be implemented without staff support.

Materials and Facilities

Materials and facilities are dependent upon the size of the class and the approach to the program, as well as on the age of the students. If the children are young, the materials can be as simple as just the use of the melody of a favorite song (e.g., Mary Had a Little Lamb or Hush Little Baby). In this case, the students write new words to the song (in concert with the teacher), and then learn to sing it. Generally, it is valuable to have a lyric sheet written and distributed to the children, to be taken home to their parents. On the other end of the spectrum, the melody can be created by the students themselves, using piano, xylophones, recorders, or guitar, depending on the skill level of the students and the musical background of the teacher. In general, a copying or ditto machine and a tape recorder are needed; and it is more effective to implement the program through the use of musical instruments as well. However, the program can be used with only the voices of the teacher and students.

Outside Resources

No outside resources are needed.

Overall Value

Through this program, children experience their own creativity and self-expression, develop their ability to cooperate and appreciate the creativity of their classmates, and improve a whole range of cognitive and communication arts skills—in an atmosphere that is exciting and stimulating. The program has wide-ranging applicability and feeds into many other aspects of a school curriculum. Developer Zimmerman says: "If the program is taken as far as the performance of the students' compositions, the children also develop self-confidence through performance and further extend their feeling of pride in creative accomplishment."

Elementary School Music/ Communication Arts

Creativity and Self-expression Through Songwriting

More Information

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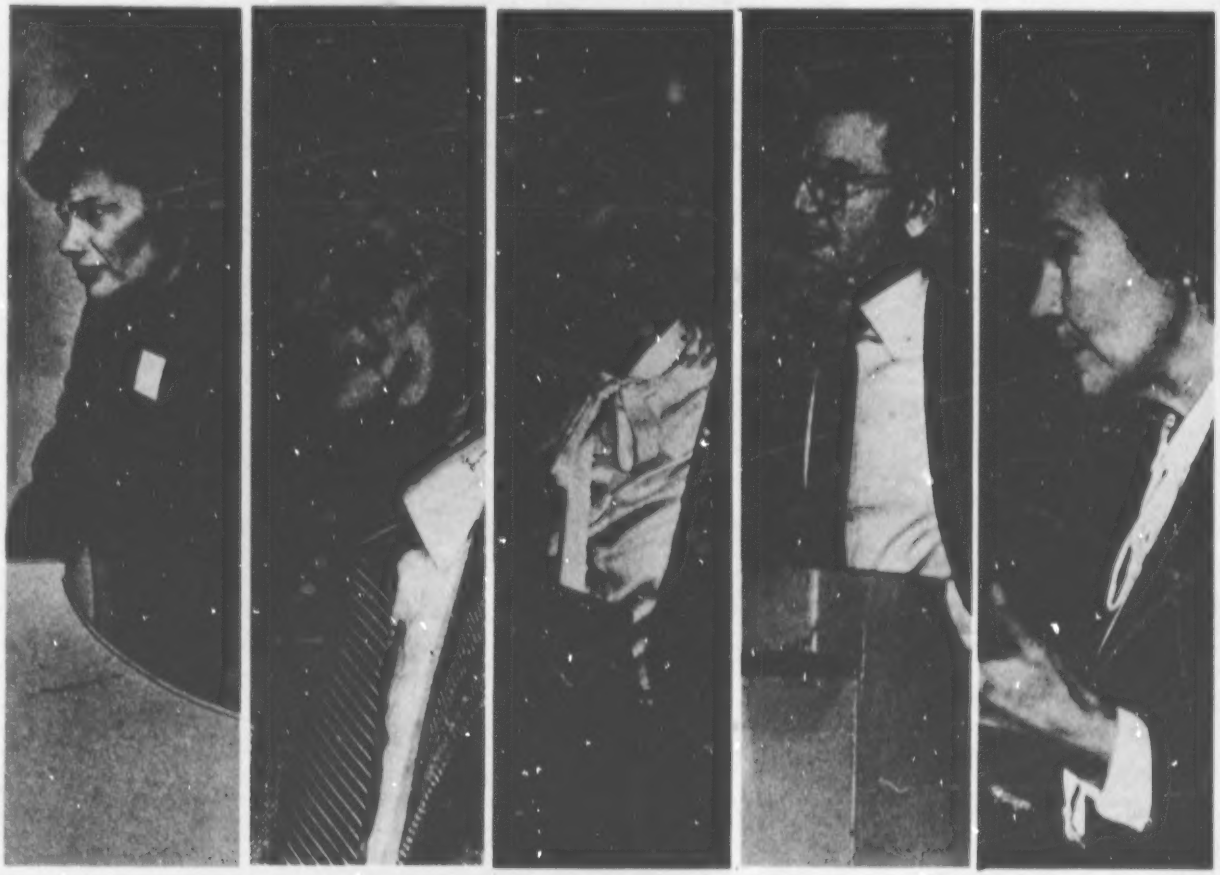
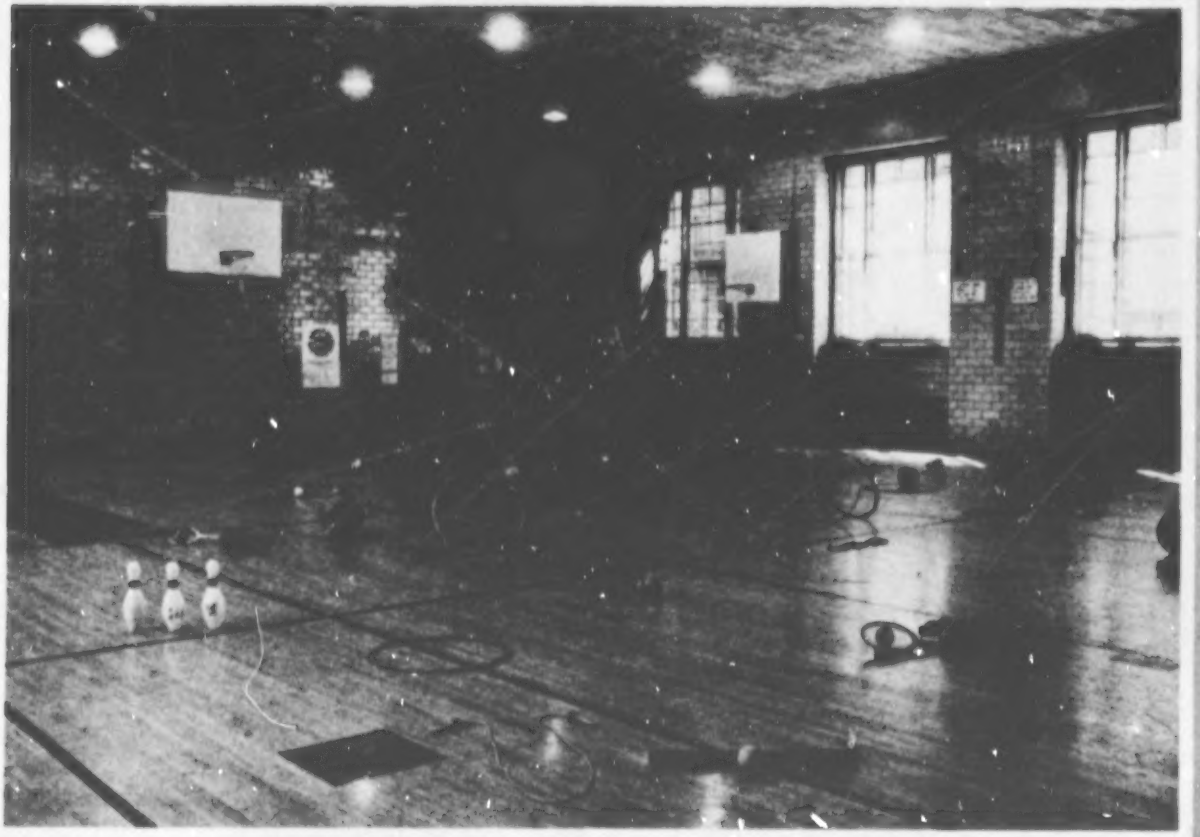
Speakers at the IMPACT II Fifth Anniversary Convention were (from left to right): Ellen Dempsey, Executive Director, IMPACT II; Robert L. Payton, President, Exxon Education Foundation; Sheila McCauley, Teacher, P.S. 158 Manhattan; Ernest L. Boyer, President, Carnegie Foundation for the Advancement of Teaching; Charlotte Frank, Executive Director, Division of Curriculum and Instruction.



John Cole

Physical Education



Jayson Jons

Elementary School Physical Education

The Non-Obstacle Course

The Program

The purpose of *The Non-Obstacle Course* is to introduce new gym equipment and to allow for mastery of old. It has children achieving a sense of a "job well done" and is an effective evaluation tool for endurance, ability, direction-following, good attitudes, cooperation, and last but not least, pure enjoyment in gym. The following objects were placed, with accompanying directions, in a given order in the gym: gym mat—"Do a log roll"; soccer ball—"Do volleyball serve two times"; Chinese ribbon stick—"Do eight designs in the air"; basketball—"Shoot twice for the basket." The course can be used in any and all of the following ways: doing run-throughs; mastering skills; running relay races; testing oneself for speed and ability; building use of non-dominant hand; approaching activities backwards. The reason for the title? Well...once you have mastered it, it's a *Non-Obstacle of Course!*

The Students

Seven hundred and fifty students from grades K through six have participated in this program. The classes meet once or twice a week. The program can be adapted for any age level and in any area, including classrooms.

The Staff

The program was developed by Sabra Elmore, physical education instructor. She has been a teacher for 16 years, was the Community School District 3 winner of the Elementary Physical Education Certificate of Excellence in 1978, and has been a consultant with Harcourt Brace Jovanovich on physical education concerns. The principal of the school, the students, teachers, and the Parents Association have been most supportive and receptive.

Materials and Facilities

Use anything, anywhere.

Outside Resources

No outside resources are necessary.

Overall Value

"Besides being a remarkable evaluative tool for endurance, proper attitudes, and skill building, there are outcomes beyond measure in the program—hearing children say repeatedly, 'That's fun!' or 'I can do that!'; having them submit ideas for the next course; and seeing almost everyone smiling, has made gym a pleasure," says developer Elmore, in summing up.

More Information

Sabra Elmore
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The Program

Aerobics for Coed Classes is designed to provide worthwhile and feasible coed activity in physical education classes of any size. Students are working towards an improvement of their cardiovascular system and body tone, as well as towards having an enjoyable and creative experience. The program is based on mini-units that facilitate teaching and testing. Students perform aerobic routines to music taught by the teacher. They also monitor their heart rates to measure cardiovascular improvement. Students are required to individually choreograph their routines, and to write descriptions of them. Some will perform their routines in front of and/or teach them to the class.

The Students

Two hundred and fifty eleventh- and twelfth-grade students of all ability levels participated in this program. Class size can range from 1 to 150. The classes met five days a week. The program can be adapted easily to any age and grade level, from elementary school through high school.

The Staff

Aerobics for Coed Classes was developed by Janet Marcus, a physical education teacher at Murry Bergtraum High School for Business Careers. It has full administrative support but can be readily implemented without support. Marcus conducted a workshop in aerobics at the 1982 New York City Physical Education Conference, "Physical Education in the Big Apple."

Materials and Facilities

About 20 aerobic routines are needed to conduct this course. These routines can come from various sources: the teacher can choreograph his/her own routines; students can choreograph their own routines; commercially prepared aerobics material can be used; or exchanges with other teachers can be made. Music is chosen on the basis of what the teacher and/or students like to hear. Room size is dependent upon the class size; however, the students do not have to move over large spaces to perform the routines. A phonograph and tape recorder are essential for the program. Records do not have to be bought; they can be borrowed and taped. Students are given handouts containing the written instructions for each routine learned.

Outside Resources

A good way to help a beginning teacher is with the "Jackie Sorensen Aerobic Dancing Education Series," distributed by Educational Activities, Freeport, NY, and Kimbo Educational, Long Branch, NJ.

Overall Value

Says developer Marcus: "Aerobics is a lifetime activity. Students who participate have a basis for continuing this activity on their own, during and after the course. There is no question as to the improvement in physical tone and cardiovascular function, and the fun had by all." This program also allows the students an opportunity for creative experiences—choreographing and performing their own aerobic routines.

High School Physical Education

Aerobics for Coed Classes

More Information

Janet Marcus
Murry Bergtraum H.S. for Business Careers
411 Pearl Street
New York, NY 10038
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Principal: Barbara L. Christen

Panel discussions at the Fifth Anniversary Convention addressed critical issues including networking, enhancing professionalism, computers in the classroom, innovative approaches to basic skills, and public/independent school interaction. Pictured below: Gerry Segal, 1979-80 IMPACT II Developer and Coordinator of the Computer Learning Center, Brooklyn College, led a telecommunications demonstration. Convention participants exchanged information with colleagues on standby in Houston, Texas using the latest communications technology.

John Cole

Science

Elementary School Science

Making Electricity with Sunshine, Solar Collectors, and Mirrors

Herberto Ferrer

The Program

The purpose of *Making Electricity with Sunshine, Solar Collectors, and Mirrors* is to educate our children to the seriousness of the energy shortage, help them become knowledgeable about energy issues, and prepare them to make realistic decisions concerning these issues. The students are actively involved in tracking the sun by computers, or with a light meter and a clinometer (an altitude-measuring device), in order to relate the energy received to the angle of the sun, and cloud cover to the energy received; and in predicting the best angle at which to set a solar collector at each time of day. They also explore the basic properties of solar energy—reflection, absorption, and transmission. Students determine, through experiments, which materials would be the best to use in each situation. They learn basic facts about the sun: its position and importance in our solar system, and its function as the ultimate source of all our energy on earth, from the creation of fossil fuels to the initiation of wind and water cycles.

The Students

The program has been confined to the fifth- and sixth-grade gifted or average classes, but can be adapted to children from fourth grade to ninth. Children whose ability range is below average would also be capable of doing some of the less complicated research and experiments such as determining what color absorbs sun the best, or how long it takes to cook a hot dog with the sun. Most of the experimenting is done either individually or in small groups, but many of the activities —such as viewing the filmstrips or listening to the tapes included in the *Energy Kit*—can have the participation of the entire class, or can be used in the auditorium at an assembly program. The *Energy Kit*, available from the National Geographic Society in Washington, D.C., contains four filmstrips and cassette tapes on solar, nuclear, wind and thermal energy.

The Staff

Rachel Bookman has been teaching for 23 years. She was awarded a NYSED mini-grant, which was implemented in 1981 and 1982. Her innovative program has received support from the school and district administration, the Parents Association, and community leaders.

Materials and Facilities

The program requires some basic equipment and materials that many schools have as part of their regular classroom and science and mathematics laboratory equipment. If a computer is not available at the school, a light meter and a clinometer can be used for tracking the sun. Thermometers, magnifying glass, and materials that reflect, absorb, and transmit solar energy—as well as those that do not—are easily obtained. A sunny room, preferably with a southern exposure, can be used for experimenting. The school yard at the south side of the building is ideal for working with the problem-solving experiments. Using the solar collectors that they have constructed, the students accumulate data on their own, keeping accurate records during experiments.

Outside Resources

Field trips to the Con Edison Energy Museum, Wagner College Solar Energy Plant, and the Planetarium may be arranged. Both Brooklyn College and Wagner College, on Staten Island, cooperated readily with help from their science departments. Free films and materials were easily obtained from the Department of Energy at the state and federal levels.

Overall Value

"The children learned that solar heat could significantly reduce fuel oil requirements while converting sunlight into useful energy," is developer Bookman's considered evaluation of her program.

More Information
Rachel Bookman
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Brooklyn, NY 11229
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Principal:
Marvin Rubinstein

The Program

Fishing for Knowledge is aimed at increasing children's knowledge and awareness of the marine environment. The program is multi-disciplinary, for it involves science, ecology, mathematics, communication arts, reading, and human relations. Students research a marine environment and the equipment, such as fish tanks and aeration systems, needed to design and maintain a healthy tropical fish habitat. Before choosing and buying their fish, the children learn to understand the mechanics of the tank, and the different types and needs of fish. The students study, research, and observe their fish, and journals are kept recording their temperature, health, and activity. The students maintain and care for the fish in rotating small groups. They study the different traits, characteristics, and needs before naming them. Students write personality profiles and poetry, and draw murals describing the daily life of their fish community. The teacher monitors the children's work and provides experience charts, experiments, and other problem-solving materials to increase knowledge and awareness.

Barbara Dubler

The Students

Thirty-three students participated in the program last term. The students are in a gifted fourth-grade class. This program can be adapted to students of all age groups and achievement levels. The group may range from an average-size class to a small group of children. The size does not matter as long as the children have input into the planning of the environment.

The Staff

Barbara Dubler, a teacher with eight years of teaching experience, developed and implemented the program with her fourth-grade class. She has the support of the principal, assistant principal, and custodial staff. The program can be implemented without administration support if money is available to promote it.

Materials and Facilities

Fishing for Knowledge can be conducted in a regular classroom. Two electrical outlets are required for proper maintenance of the fish tank. Resource materials needed are books such as Dr. Herbert A. Axelrod's *Fishes For Your Community Tank*, or Mervin Roberts' *Beginning the Aquarium* (both available from T.F.H. Publications, New Jersey); filmstrips; a fish tank; and related materials. Plans are available on request.

Outside Resources

The program calls for trips to the New York Aquarium at Coney Island, the Bronx Zoo, and a local pet shop. The use of the school and public libraries for research and resource materials is essential.

Overall Value

"The excitement and fascination generated in the children by the fish transfers to all related curriculum areas," according to developer Dubler. "Through the study and care of an aquatic environment, the students broaden their understanding of their own natural environment. The observations and understandings gained from the fish study are internalized by the students. The children's awareness of life systems becomes more meaningful and enriching when they are involved in a hands-on experience!"

Elementary School Science

Fishing for Knowledge

More Information

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Principal: Abby Kessler

Elementary School Science

Squidding Around with the Basics

More Information
Bernice Bunny Nadelman
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Bronx, NY 10466
Telephone: 654-6377
Principal:
Natalie I. Roberts

The Program

An innovative hands-on approach to studying marine and fresh water environments, entitled *Squidding Around with the Basics*, comprises a program that helps to develop science process and work study skills while encompassing all curriculum areas. The children plan, initiate, and maintain a salt water aquarium in the classroom. They are sensitive to the needs and habits of the sea organisms (crabs, starfish, snails, mussels, killifish) that are in their care, and they become knowledgeable about the delicate balance of chemical properties in sea water needed to sustain marine life. Data is collected and recorded in each student's log book. They note the testing of water temperature, salinity, pH, and nitrite, and the condition of the organisms. Especially interesting is animal behavior as observed in feeding, mobility, respiration, and territoriality. Since much of the work of the class is theme-planned, the children are comfortable with the subject matter. All areas of aquatic education are being taught, and the children's writing, reading, and work study skills have improved.

Some of the project activities that stimulate student learning are: using observational skills to understand the unique design and function of a squid, cooking and eating it, creating methods to market it, and interviewing people and graphing their reactions; simulating an oil spill in "small" oceans and attempting to clean it up; making monuments out of clay and observing the effects of acid rain; extracting carrageen from the seaweed Irish Moss, discovering its properties, and creating uses for it; role-playing coastal management problems; making scrimshaw; dramatizing scientific concepts by performing "The Mystery of the Clam" for the school, district, and community. A variety of lesson plans, worksheets, and samples of student work are available to interested teachers.

The Students

Thirty-one heterogeneous fifth graders meet every day. Once a week, a small group of 15 interested students from grades four, five, and six also participate. The program can be adapted to any age group, achievement level, and group size.

The Staff

The program was developed by Bernice Bunny Nadelman, and has been refined and expanded for the past ten years. Nadelman is vice-president of the New York State Marine Education Association and executive board member of the Elementary School Science Association and the Science Council of New York City. She is actively involved as a guest lecturer and presenter of workshops throughout the United States. She has recently been published by McGraw-Hill and by others through grants. The program has the support of the principal.

Materials and Facilities

Materials were purchased through a small grant, "Teacher Incentive Awards," given by District II. The program can be implemented in any conventional classroom; however, an area set aside as a science center would be useful for materials, observations, experimentation, and research. A salt water aquarium is not a necessary part of the program, but since it adds much learning stimulation and motivation and is easy to maintain, the aquarium is a valuable tool to acquire.

Outside Resources

Field trips to the beaches, fishing ports, sea aquariums, fish markets, wildlife preserves, museums, Coast Guard stations, ships, and seaports are stimulating activities. Invited guest speakers could introduce an assortment of career opportunities or inject historical value.

Overall Value

This program "turns kids on." Through active participation, children assume responsibility for their own learning. Says developer Nadelman: "They are building a foundation for future scientific inquiry and instilling a sense of pride in themselves for being able to act the role of young scientists even as they are acquiring scientific methods and developing life skills and basic humanistic values."

Elementary School Science

Ecology: Hand, Heart, and Mind

The Program

Ecology: Hand, Heart and Mind is an interdisciplinary approach to science, cutting across all curriculum areas and using literature to stimulate awareness of the interdependence of plants and animals in the environment. For example, the class studies Felix Salten's *Bambi* (New York: Grosset & Dunlap, Inc., 1929), W. Somerset Maugham's *Princess September and the Nightingale* (New York: Oxford University Press, 1939), and other stories about nature. This hands-on approach develops respect for life and living things through use of the intellect and the cognitive aspects of learning. The program begins with a nature walk to the park. Collecting and labelling leaves heightens the powers of observation, which ability carries over into other areas. The class also walks through the neighborhood, noting abandoned or boarded-up buildings, fire escapes, pocket parks, and urban renewal projects. Classroom discussion centers on food chains and food webs. Filmstrips are shown on the subjects of trees, forests, ponds, marshes, and deserts. The students make food chains and food webs, and transfer their drawings to plastic transparencies for use with the overhead projector. Journals, experiments, compositions, and changes in attitude are written down as the various projects continue. Last year the children grew tomatoes in the courtyard and had a salad party. This year, the class has added crocus bulbs, coleus, and various house plants to its collection. In the planning stages are a class newspaper and a plant sale.

The Students

The children are heterogeneously grouped. This year, the program serves a fourth-grade class, ages nine to eleven. But with a little modification it can be suited to children from third through eighth grade.

The Staff

Rama Rodvien, a classroom teacher, developed the program, but it definitely has the support of the administration. A paraprofessional works half a day with the class, and the director of the Goddard Riverside Community Center assists with the program by speaking with the class about conservation, leading nature walks, and organizing a five-day trip to winter camp at Rifton, New York. A volunteer has supplied soil and seeds, and has helped students to make environmental "cubes," tissue boxes on which students have pasted pictures from magazines that reflect an environmental theme such as the jungle, the seashore, or volcanos. But essentially only a classroom teacher is needed. Without adult support or involvement, some of the activities would be whole-class oriented.

Materials and Facilities

The classroom is the center of study. Parks, the library, the neighborhood, museums, and a winter camp are useful. The equipment provided by the school includes: overhead projector, filmstrip projector, scale, and microscope. Rexograph and xerox machines are also used. Oven, hot plate, cooking utensils, and tape recorder were borrowed from various sources. *This Earth: Everything Fits Together,* a multimedia learning experience for the elementary years, and *Map Study Topography for Flannel Boards,* a kit available from Instructo, are necessary. Books such as *I Feel the Same Way* by L. Moore, *How Animals Sleep* by M. Selsam, *A Seed is a Promise* by C. Merrill, *Creating With Paper* by M. Borgos, to name a few—draw great interest.

Outside Resources

The following resources enhanced the *Ecology* program: the Goddard Riverside Community Center; The Learning Center, Community School District 3; a visit to the Department of Housing Preservation and Development; trips to Central Park and the neighborhood surrounding the school; parents who accompanied the class; and other teachers who contributed equipment and ideas.

Overall Value

"Subjective data indicates children have developed positive self-images about the parks, woods, and their neighborhood," says developer Rodvien. "There is certainly a change in keeping the room cleaner, and greater interest in conservation, subjects pertaining to nature, and woodlore."

More Information

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Elementary School Science

My Tree

The Program

My Tree is an all-year observation of an individual tree that grows in a school neighborhood and has been selected by a child. The observation is recorded in a booklet of alternating lined pages for writing and unlined pages for drawing. Monthly trips to the tree are supplemented by special trips for animal track study when it snows, and for tree flowers. Classroom activities, such as dissecting seeds, researching germination, reading the history of a tree from a log, taking apart bagworm (a common city caterpillar) cases, using clay to construct the growth patterns of trees, and making paper, enhance and enrich the project. A newsprint wall chart on which children reproduce their monthly drawings dramatizes the monthly changes as well as the individual differences. Observation skills, record keeping, the drawing of conclusions, vocabulary, and a sense of environmental responsibility are all developed.

The Students

About 18 children aged seven and eight, of mixed backgrounds and capabilities, have been involved in this project annually for the past eight years. Older children could carry out additional studies—which would include temperature, soil chemistry, and pollution measurements in relation to trees. A single gifted child could work alone, as could a child or children who needed a special project.

The Staff

Helen Ross Russell introduced tree study when she became science consultant at Manhattan Country School 12 years ago. Four years later, when Cynthia Rogers arrived, it was made the main thrust of the science curriculum for seven- and eight-year olds. Each month's particular emphasis is discussed in the classroom; i.e., "What animals are using your tree as a winter shelter?" "Examine tree buds and draw them, remembering about leaf arrangement." "If your tree is blooming, try to find a flower on the ground. If you can't, ask the teacher to get one for you." While a single person can go to the school grounds with a small group of children who have been trained to work outdoors and to follow the classroom instruction, a supplementary person is an asset for helping children spell, collecting crayons, and taking care of youngsters with problems. If you are leaving the grounds, you must have two adults.

Materials and Facilities

If there are trees in your area—school grounds, street, or park—you are ready to go. Ideally, each child should have his or her own tree. If half-groups go out, you can do with half as many trees. Children's books made of alternating lined and unlined pages, crayons, and pencils, are a part of the regular classroom supplies. Binocular microscopes and/or hand lenses are also assets for studying things like seeds, buds, insects, and insect eggs.

Outside Resources

Field trips to the American Museum of Natural History's superb tree exhibit, to the New York Botanical Gardens, to maple sugaring at Wave Hill, to observe a special tree in the area, or to study street tree problems can all enhance this study. We have collected charts and books for classroom reference and research.

Overall Value

Trees are one of the easiest outdoor topics to pursue; they are dependable, stay put, are loved by children, and offer many topics for study. Tree study permeates the seven- to eight-year-old's curriculum, involving every subject and enriching many discussions as children make new discoveries or bring in things from outside. "In addition," say Rogers and Russell, "the particularly good feature of this class activity is that, without special equipment, individuals can work at their own level. Comparisons are made with their own accomplishments, not with those of others, while tree comparisons reinforce the concept of similarities and individual differences in all living things."

More Information

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Manhattan Country School
7 East 96th Street
New York, NY 10128
Telephone: 348-0952
Director: Augustus Trowbridge

Stephen Butler

Elementary School Science

The Whale Study

The Program

The Whale Study is a core curriculum for kindergarten in which children develop skills in language, mathematics, science, and the arts through the study of the characteristics and habits of whales. Children learn about toothed and baleen whales, and their ways of feeding, breathing, movement, birth, and communication. This is accomplished through the use of books, records, and class discussion. Children use construction paper to make whale-shaped books of six to eight pages in which they dictate stories about whales. They also create miniature clay whales to use in conjunction with block building. They sew small felt mother whales which contain a baby, to reenact the birth and first breathing experience of a newborn whale. The whole class constructs a life-size model of a baby killer whale (10 feet) from papier-maché over a chicken wire armature. They play the game "Whale Concentration" with cards they have made themselves. To the sounds of whales on the record "Songs of the Humpback Whale" (Capitol Records), the children create the movements of whales—sounding, breaching, swimming, and spy-hopping.

The Students

The kindergarten class of 18 students comprises five- and six-year olds. The day begins with a 15-minute class meeting in which whale facts are discussed, and stories, books, and records are shared with the group. During the class work period, the craft, language, and mathematics projects are completed. The entire program is completed in four to six weeks. For older children, the program could easily be adapted to include extensive research and creative writing, as well as more discussion about the whaling industry and its impact on whales as one of many endangered species.

The Staff

The Whale Study was developed by Jessica Ross, who has taught kindergarten for nine years at St. Luke's School. It is implemented with the help of an assistant teacher. Fifth-grade students lend enthusiastic support, especially with the construction of the whale model, as part of a year-long partnership program with the kindergarten children.

Materials and Facilities

Classroom materials include paint and paper, newspaper, wheat paste, chicken wire, felt squares, embroidery thread, and large needles. The "teachers' manual" for the study is *The Whale* by Leonard Harrison Matthews. (Crown Publishers, New York, 1977). This is augmented by many other books and pamphlets. A lengthy bibliography is available on request.

Outside Resources

Field trips to the New York Aquarium to see dolphins and beluga whales, and to the Museum of Natural History's "Sea Life" exhibit, are great resources.

Overall Value

The Whale Study teaches important kindergarten skills, using the exploration of the world of a magnificent mammal as the catalyst. Children gain feeling and insight into their relationship with the natural environment. "The desire to preserve whales, as well as to learn about them, becomes a natural outgrowth of the program," says developer Ross. "Children learn creative and fundamental uses of mathematics and language concepts, and express themselves through art and movement. *The Whale Study* is a curriculum in which individual strengths can flourish within the structure of a common learning experience."

More Information

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Barbara Belknap

Elementary School Science

Bubbles are Scientific

The Program

Bubbles Are Scientific, an effective activity for stimulating scientific thinking and encouraging spontaneous individual thought, teaches students to observe the ordinary bubble with great care. The children actively observe, question, formulate problems, hypothesize, and devise investigations that lead to concept building. Each child is given a clear container of water, liquid soap, a drinking straw, a thin wire, and a hand lens. The problem is presented: "What can you learn by observing bubbles?" The children are told to use the materials in any way they wish, and are given time for open-ended exploratory work. Original thought is encouraged. The teacher stresses that there are no wrong answers, only different avenues of investigation. Possible problems may include: How do plain water bubbles compare with soapy water bubbles? What determines the color, size, shape, longevity, and strength of bubbles? Why do bubbles act the way they do when they join? Will different soaps create different kinds of bubbles? Why do bubbles float, bounce, stretch? What is a bubble? The children will surprise you with many more questions. There is no set number of periods for investigation, since the teacher takes cues from the students' interest. Finally there is a discussion where all ideas are valued. At this point the teacher introduces vocabulary i.e., solution, cohesive, surface, tension. reflect, refract, and brings out the scientific concepts involved.

The Students

Children in grades three, four, and five, a bilingual four and five, and two Health Conservation (HC-30) classes were involved. The program can be adapted in grades kindergarten and up.

The Staff

Victoria Smith, a teacher of 16 years, has been the school science cluster teacher for 11 years. The activity was designed with the support of the principal, as a means of encouraging each student's potential for inventive creation.

Materials and Facilities

The materials needed include: water, various soaps, clear plastic containers, drinking straws, hand lenses, thin wire, and paper towels. The activity is conducted in the science room but can be implemented in any classroom.

Outside Resources

The school library and the home are two outside resources.

Overall Value

Developer Smith tells us: "The students are excited, involved, and surprised to discover that an ordinary bubble can be so scientific. They gain a feeling of self-worth as they assume the roles of initiator and evaluator, rather than spectator and receptor. They are eager to use the library for research." Communication arts skills include vocabulary development, recording, and oral communication. The activity is also integrated with art, as children draw diagrams depicting the beauty of bubbles; and with mathematics, as they study the different shapes that bubbles form when they are joined.

More Information

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Principal: Jerome Bloom

The Program

The Nature of Matter: Activities and Experiments is a program that uses teacher-designed activities and experiments to make atomic theory concepts and chemistry accessible to elementary-middle school children. It is a unified approach to the invisible world around us. Students start the unit by decoding the Periodic Table of Elements. Then they choose an element to study. They build a three-dimensional model of an atom of that element. (Many have chosen candy and eat their homework.) Later, they write a research report on their element.

Atoms combine to form molecules, and elements combine to form compounds. A series of interesting, foolproof, and easy-to-do experiments illustrates each discussion concept. For example, a *mixture* of iron and sulfur can be easily separated with a magnet. But when specific amounts of two elements, iron and sulfur, are heated a new substance, a *compound*, iron sulfide, is formed with new properties. Periodic Table activity sheets, twenty experiments (with instructions), and background material are available.

The Students

Each year for the past four years, 44-46 sixth graders, meeting twice a week in groups of 12 in the science laboratory, have worked on this unit. The program could be adapted to other grades and conducted either in a science laboratory, in a regular classroom as a demonstration, or in small groups. More or less theory can be included, depending on the inclination and interest of the teacher and ability of the children.

Sally Aberth

The Staff

This program was developed by Sally Aberth, the school science teacher, who has also received a $300 mini-grant from the New York Heart Association (in October 1982) to expand and enrich her curriculum on the circulatory system. Her goal in this program is to present to children—in ways they can truly understand and absorb (namely by combining practice, or experiments, with theory)—answers to questions they ask at all ages: "What are atoms?" "What are things made of?" "How does the tiniest thing look?" "Why is paper black after it is burned?"

Materials and Facilities

Any science laboratory or classroom will have most of the equipment needed. Possibly $5-10 worth of chemicals, such as copper sulfate, magnesium ribbon, iron filings, and sulfur powder, will have to be purchased. To take the program into a classroom with no science equipment, several items should be acquired: test tubes, alcohol burners, and batteries. Some equipment (test tube holders, tongs) can be made from scrap material. This program can be adapted easily to either a science corner or whole-class teaching, although having each experiment done by laboratory partnerships of two-four is optimal. We have had advice (by mail) from an astrophysicist from time to time, but this is *not* necessary.

Outside Resources

No outside resources are needed. This program could be taught by a science teacher, a classroom teacher willing to learn a little physics, or both. For one of our experiments, we traveled to the high school across the way for a demonstration by a physics teacher. (This experiment is optional.)

Overall Value

"Older elementary school children are in a transition phase between needing to work with concrete materials and being able to handle abstractions," says developer Aberth. "The value of this program is that it offers hands-on experiences to reinforce and 'explain' abstract ideas."

Intermediate School Science

The Nature of Matter: Activities and Experiments

More Information

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Principal: Peggy Cole-Farris

Intermediate School Science

The Class Menagerie

The Program

In *The Class Menagerie*, the students, working in groups, create a classroom zoo by preparing written and presenting oral reports on their chosen animal; by building homes; and by daily observation and care. The students are given a list of animals, including fish, lizards, birds, gerbils and rabbits, to choose from, and groups are formed. It is explained that before they can assume responsibility for the life and comfort of the chosen animal, it is necessary to make an in-depth study. The class receives an outline of 15 areas of study (e.g., anatomy, eating habits, social order, reproduction, and habitat), resulting in detailed, beautifully illustrated, written reports and oral presentations. The students then design and construct homes, meeting the animals' needs and reflecting their natural habitats. Upon completion of the homes, all groups receive their animals (donated or purchased with money raised by bake sales), which they observe and care for throughout the year.

The Students

The program was initiated this year. Forty-five sixth and seventh graders, with a wide range of abilities, participate, with classes meeting five times per week. The program can easily be adapted to larger or smaller groups and to other age levels.

The Staff

The program was developed and implemented by Sharon Rose Beier for the two six/seven classes at the New Lincoln School. "I worked in Switzerland several years with children who had daily contact with nature. I wanted to bring some of these valuable experiences to my New York City children." The teacher can carry out the program alone.

Materials and Facilities

The students received blank bound notebooks and colored pencils, with which they wrote their reports, made biological drawings, and recorded observations. Animals, food, wood, wire mesh, plexiglass, hardware, fish tanks, and lights are needed. The program can be made as simple or as complex as is desired.

Outside Resources

The public library and the American Museum of Natural History are valuable resources. Bake sales were held to raise money for this program. Students from other classes donated animals, materials, and foods.

Sharon Beier

Overall Value

"There is an atmosphere of enthusiasm and vitality in the science room," says developer Beier. "Students are there morning, noon, and after school, often bringing in younger brothers and sisters to share in the care of their animals." Students learn design, measuring, and problem solving in the construction of their cages; learn to make careful observations; and learn the difficult art of working together in groups. The students develop feelings of responsibility, sympathy, wonder, and accomplishment. The students learn respect for life.

More Information

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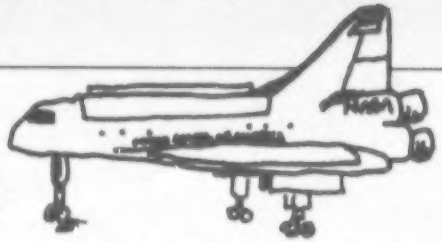

Kalm Chan

Junior High School Science

Aerospace in the Junior High School

The Program

Aerospace in the Junior High School is an interdisciplinary program with an emphasis on science. Its purpose is to introduce the student to up-to-date concepts about aerodynamics and space. The students are also strongly encouraged to use their imagination and natural curiosity about space, and to express both by writing compositions and designing rockets and airplanes. The program is divided into four sections. In the first, the students are introduced, through experiments, filmstrips, and discussions, to basic science concepts about air and the atmosphere. Through independent study, the students learn about the atmospheres of different planets, and design their own space suits, space crafts, and other survival mechanisms. The second part of the program is entitled "How Airplanes Fly." A model of the Delta-Dart airplane is built and used to study flight. The students learn how the elevator and the rudder control the plane's roll, pitch, and yaw axis. Some students design their own airplane models. Through simple demonstrations, the class is introduced to the theory of flight—Bernoulli's principle. Using filmstrips and independent research, the students learn about the history of flight; other historical developments that helped to fulfill the ancient dream of human beings to fly are also discussed. In the third segment, maps are explored and map skills developed. Most students have a poor concept of geography, and the program teaches map skills by using road maps. After becoming familiar with the United States, the student is introduced to images from "Landsat," the National Aeronautics and Space Administration (NASA) land resource satellite, through a game of "Land-sat-Toe"; and discussions are generated on how many governments use the multi-spectral images from "Landsat" for land use in agriculture, environmental studies, and related areas. The students then construct, using "Landsat" images, a map of the northeast coast of the United States. With the help of this map, population density, agricultural development, and other economic and ecological manifestations are carefully studied. In the fourth part of the program, the students learn about the Law of Motion through experiments and workbooks. They design rockets, fly them on a voluntary basis on weekends, and compute the altitude. At present, legal safety reasons preclude flying rockets on school grounds. However, a final decision is pending. At the end of this fourth section, the students are introduced to some of the discoveries made by the space probes Voyager I and II as they explore our planetary system. Slides and cassette tapes from NASA are used for this unit of study.

The Students

Fifty-five students from the seventh-grade gifted classes participate per term in the program. The students' achievement levels are above average, and some have artistic talents. They are divided into two groups; one group meets twice weekly, and the other group convenes for three periods a week. The curriculum is adjusted accordingly.

The Staff

Ellen Goldstein developed and implemented this program, with the support of the administration in the school, in the district, and at the New York City Board of Education's Science Unit. Goldstein, a junior high school science teacher, took courses in aerospace and model building. She gave a workshop in aerospace at the 1983 Science Council of New York City Conference. Even without the support of the administration, parts of the program can be adapted for different curriculum areas. This is done by Goldstein in her regular seventh- and eighth-grade science classes.

Materials and Facilities

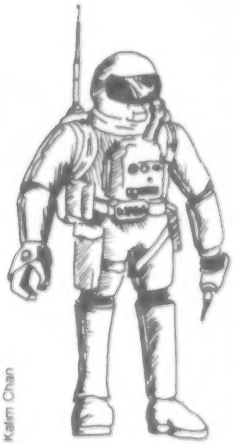
The basic facility is a shop area. The materials required are maps, scissors, paints, folders, glue, rocket and airplane models; otherwise students may use balsa wood to make their own aircraft models. A list of materials and resources is available to teachers on request.

Outside Resources

No outside resources are necessary.

Overall Value

If a teacher cannot adapt the program in its entirety, parts of it can be adapted to enrich different disciplines. Says developer Goldstein: "The course captures the students' natural curiosity about space and adventure, and guides them to learn more about the discoveries of our century."


Kalm Chan

More Information

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Bernice Frankenthaler

High School Science

Biology Laboratory Techniques

The Program

Biology Laboratory Techniques was designed as a sampler of experiences for advanced students who would like more information, before making a career choice in either biological research or medicine. No subject unit lasts longer than three weeks, and each unit should provide students with enough work experience for them to make more realistic judgments concerning their future plans. Units of study in hematology, urine analysis, bacteriology, genetics, population studies, and plant cloning are offered. The units are highly flexible, and are continually altered on the basis of student interest and available materials. Teacher direction is kept to a minimum, and no laboratory manual is employed. The teacher behaves as a senior partner, explaining and demonstrating procedures when necessary; students create their own laboratory manual as the term progresses. At the end of each unit, students are required to submit their written record of each day's work (including procedures, observations, and conclusions), along with a discussion of what their results indicated and comments on the design of the experiment and the sources of error involved. At the end of the term, students have a heightened sense of what they want—or do not want—to do with their lives, as well as a basic knowledge of medical tests and scientific method. Course outlines, procedures, and sample student logs are available for anyone interested in creating a similar program.

The Students

Last term, four classes of approximately 30 students each participated in this program. All had previously passed Regents biology and were using *Biology Laboratory Techniques* as an elective. Because of the individual nature of the work and the supervisory role of the teacher, 30 students should be an absolute maximum—smaller is better.

The Staff

Some form of this course has existed at Stuyvesant High School for at least 25 years. Everyone who teaches it has altered the course, to make the best use of individual teacher specialties and of the current interests and needs of the students. Anyone with laboratory experience, supervisory permission, and access to space and supplies can implement this course.

Materials and Facilities

Biology Laboratory Techniques, almost by definition, must meet in a laboratory. Since the subject matter is highly flexible, no unusual equipment is required outside the normal number of slides, test tubes, petri dishes, microscopes, reagents, and stains. We also use binocular microscopes as well as hemacytometers—which are specialized slides used for counting extremely small cells, in this case red and white cells. The hemacytometers, however, are used optionally.

Outside Resources

Outside resources are not required, but visiting professionals from neighborhood hospitals, where students might work as volunteers, add to the professional atmosphere of the program.

Overall Value

"With many of the mysteries of medical tests and scientific procedures unraveled, more students feel capable of pursuing a career in science," says Ferrara. "Even students who use this experience to eliminate science as a career choice always remain among the scientifically literate."

More Information

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Kenneth J. Tewel

The Program

Investigative Science Through the Marine Environment seeks to promote in students a better understanding of and sensitivity to the marine environment. It accomplishes this through student experiments on a variety of marine topics. Water pollution, for example, is one of the areas being investigated. The high school where the program is implemented is located on The Narrows, so the students can easily obtain water samples and specimens and bring them back to the school's marine laboratory for analysis and study. They can measure pH and dissolved oxygen, and test for coliform bacteria—three of several parameters used in determining water quality, as specified by the Environmental Protection Agency (EPA). The students can then compare their results with the standards set by the EPA. The students in this school have been monitoring Lower Hudson Bay for bacterial pollution for the past several years. They have written up their results in research papers, and have submitted those papers to local and national science fairs, such as the Otto Burgdorf Science Symposium and the Westinghouse Talent Search. Doing research projects improves critical thinking and problem-solving skills. When projects are displayed at science fairs, the exhibitor acts as an important role model for the younger students to emulate. At the school's annual science fair, exhibitors speak about their projects to an audience of students, teachers, parents, and administrators. There is a printed program and the student's project is on view for everyone to evaluate.

The Students

About 40 students from grades ten through twelve participated last year. They worked on their projects before and after school, and during their study period, at least five times a week. This kind of science project program can involve a smaller number of students at any age level.

The Staff

Thomas Greene, a science teacher, developed the program and implements it. Greene has done project work with students for ten years. Last year he was designated by the principal as coordinator for science projects.

Materials and Facilities

The student projects are carried out in the marine laboratory, which is equipped with a sink, fresh and salt water aquaria, space for student work, cabinets and shelves containing equipment, and a small library in the corner. Needed are aquarium supplies, including pumps and test kits, and a reference such as *A Source Book for the Biological Sciences*, second edition, by Morhalt, E. et al. (Harcourt Brace and World, New York, 1966).

Outside Resources

Field trips are made to the following locations: Plum Beach, Gravesend Bay, Coney Island Aquarium, 69th Street Pier, and an oceanographic cruise aboard the "Pisces" to Hoffman and Swinbourne Islands, located near the Verrazano Bridge. The "Pisces" is a vessel maintained by Park West High School.

Overall Value

According to developer Greene, doing a project and showing it off improves self-image and increases self-esteem, two important ingredients in promoting normal adolescent growth. "There is a great sense of accomplishment when a student completes a research paper and enters it in a science fair. By exhibiting their projects, students not only learn science but also teach it to others." By doing projects on the marine environment, students become more aware of the effect of our impact on the ocean. Today's investigators are tomorrow's voters on environmental issues.

High School Science

Investigative Science Through the Marine Environment

More Information

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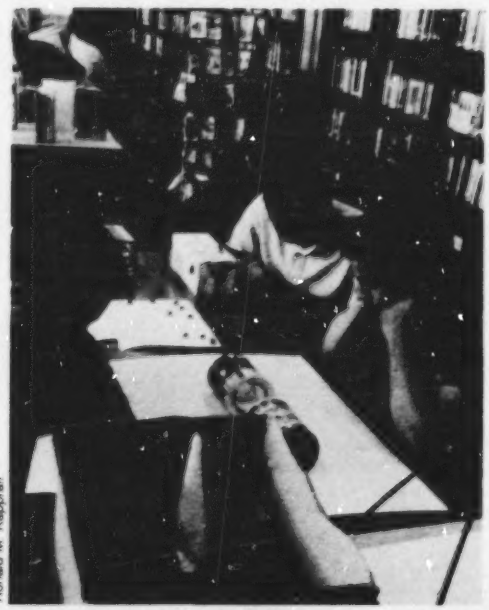
High School Science/Library Media

Solutions

The Program

The purpose of *Solutions* is to enable students, who can think of only a few possible answers to a scientific problem, to devise many more possible solutions and to develop a "best" solution, as required by the scientific method. Students report on a problem and demonstrate their creative product to the class, using models, posters, experiments, and other explanatory constructions. For example, in the chemistry module of this program, the problem could be to find an effective method for improving soap. Through techniques such as brainstorming and fact-finding, the student determines that an effective solution is to add various perfumes to a liquid soap dispenser. Then the student describes the method in detail and uses labeled pictures, diagrams, and models to demonstrate the method. During the semester, students receive special support in developing their ideas through lessons devoted to hypothesis formation and the integration of reading, writing and information-gathering skills into the science curriculum. Worksheets have been written for topics such as nutrition or extra-terrestrial survival. Specific fact-finding guidelines have been created with the library media specialists, in order to support students in the problem-solving process.



Ronald M. Kappraff

The Students

Five classes of ninth graders have participated in *Solutions* each semester. The program has been adapted to other grades and to sciences other than general science, as well as to a ninth-grade honors class.

The Staff

The program was developed by Ronald M. Kappraff, a science teacher for 14 years. He is assisted by Christine Carter and Barbara Hull, library media specialists. *Solutions* can be implemented by the science teacher, but access to the school library is essential.

Materials and Facilities

The program is conducted in the science classroom and in the library. Books and/or media on each problem, and standard reference sources are used. Some materials, such as pamphlets from companies and agencies related to the topic and telephone books that are used to contact primary sources, are free. Audiovisual equipment, paper, duplicating equipment, and texts are supplied by the school. Construction material is provided by the students and teacher. A copy of *Guide to Creative Action* by Parnes, S., Noller, R., and Biondi, A. (New York: Charles Scribner's Sons, 1977) is required.

Outside Resources

Visits to the public library, guest speakers, and field trips are helpful but not essential. Donations of materials for models would be very helpful.

Overall Value

Developer Kappraff notes: "Technology changes rapidly. In order to keep up with new developments and vocational demands, the student must become a flexible problem-solver. At present, most science courses do not stress these skills, although the need is now being recognized by the federal government."

More Information

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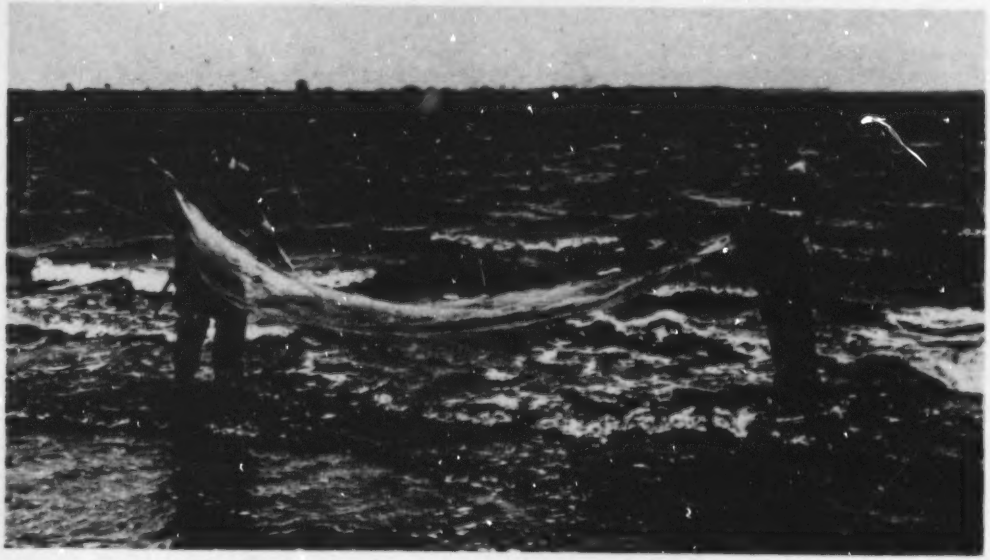

Leonard A. Meranus

High School Science

Seining in Local Waters

The Program

The purpose of *Seining in Local Waters* is to enable students to observe pidefish, rock crabs, killies, monkey bass and other marine specimens they have collected by seining (fishing with a net); and to improve mathematical skills in using rulers, scales, thermometers, microscopes, and hydrometers to measure salinity during the subsequent studies of these organisms. Students also set up salt water tanks and, following instructions, establish and maintain proper salinity and temperatures for ideal conditions.

The Students

The students in the class, who numbered 25, were average eleventh and twelfth graders, and the course met five times a week (two double periods, one single period). Larger class size makes it difficult for one supervisor to observe all students on field trips. This program could be adapted for junior high school students, assuming they would be able to purchase or collect specimens. In Canarsie, the proximity of the Canarsie Pier makes collecting feasible.

The Staff

Leonard A. Meranus, the developer of the program, has been teaching in the New York City public school system since February 1968. The program has received the active support of both the principal and the science chairman.

Materials and Facilities

A large classroom (another class uses the room as an advanced science research room), where five tanks are currently in operation, is used for the program. Texts used are: *Oceanography and Our Future*. Oxenhorn, Joseph M. (Learning Trends, Globe Book Co., NY 1975); *Oceanography*. Voss, Hilbert L. (Golden Guide, NY 1978); *Seashores*. Zim, Herbert S. (Golden Guide, NY 1955); *Adventures on the Beach*. New York City Board of Education. (Teacher's Guide K-12).

Outside Resources

Additional resources that were helpful were field trips to the Canarsie Pier, the Coney Island Aquarium, and the American Museum of Natural History.

Overall Value

"Students will discover a new world of salt water organisms that can easily be caught, observed, and maintained—not only in class but at home," says developer Meranus. The hands-on approach, and the need to work with and relate to others to conclude a successful field trip, are important factors that enable students to work together and have positive interaction.

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Milton M. Meller

High School Science

A Laboratory Practical Exam

The Program

A Laboratory Practical Exam has been developed to test student achievement in the basic skills area of the ninth-year New York City Board of Education *Minimum Learning Essentials* curriculum in general science. After receiving training in such basic skills as metric measuring (length, weight, temperature), calculating (volume and density), sketching (laboratory setups), hypothesis forming (following the scientific method), and data recording, students are tested on their ability to actually perform these tasks. The laboratory is organized with ten stations, each station designed to test one skill. Students are given a specially formulated answer sheet and instructed on how to proceed from one station to the next. They are given approximately three and one half minutes to complete the task indicated before them and to enter their data. Students measure, calculate, or sketch, as required on an instruction sheet at each station. Balances, rubber stoppers, thermometers and other suitable laboratory materials are provided at each table. At the sound of a bell, they proceed to the next table and work on a new task. There are four of the same tasks at each table; therefore, a maximum of 40 students can be tested at one time. Copies of student answer sheets and instructions are available.

The Students

Approximately 450 students of average ability, in ninth-year general science classes, were tested last term in this manner. Students of widely differing ability levels can be successful with this type of test. It can be adapted to test laboratory skills taught at almost any grade level. It provides good practice for future biology or earth science laboratory tests. A regular 40-minute period is sufficient to test up to 40 students.

The Staff

The program was developed and implemented by Ronald H. Pollock, assistant principal of science at Murry Bergtraum High School for Business Careers, with the assistance of teachers and laboratory specialists in the department. It can be implemented using standard laboratory equipment available in most schools, and administered by any science teacher. It is suitable for students of any ability level.

Materials and Facilities

A standard science laboratory and a minimum of laboratory equipment already available in most junior or senior high schools, plus some duplicated instructions and answer sheets, are all the materials that are needed to implement the test.

Outside Resources

No outside resources are necessary.

Overall Value

"This program is an ideal culmination to the teaching of basic skills in general science," says developer Pollock. "It enables rapid assessment of the quality of learning. It is easy to administer and mark. It is uniquely different from most pencil-and-paper tests." It has been greeted with enthusiasm by teachers and students. Typical student comments were: "That was fun!" and "Let's have more tests like this one!"

More Information
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Barbara L. Christen

Special Education
Science

Seeds of Learning

The Program

Seeds of Learning is a program that allows children to develop a sense of pride in their environment, while simultaneously fostering an appreciation of living and growing things. Students learn to plant seeds and force root bulbs, and gain expertise in propagating plants from existing plants. The only materials needed, other than the planting medium, are readily available scrap materials such as milk cartons and plastic soda bottles for use as flower pots. Approximately 20 students gather at a weekly meeting as a garden club. Non-members are eligible to "Adopt a Plant," which is nurtured and reared by its new parent. Participants in the Garden Club learn proper care of specific plants and how to classify them by species. Students write business letters to W. Atlee Burpee and other seed companies for catalogs. A garden book based on research and direct experience is produced. A copy is in the school library, with the appropriate card catalog references. At this point, the club is considering publication through the school's Publication Center. The activities of *Seeds of Learning* have enhanced the children's love of reading and heightened their level of sophistication. They are motivated to read and write about specific plants.

The Students

The 20 students are fifth and sixth graders. They are members of the Garden Club. First through fourth graders (about 15) are eligible to participate in the Adopt-A-Plant program. The Garden Club has also planted bulbs, in an effort to beautify the area fronting the school.

The Staff

The program was developed by Frances Werner. Werner has been teaching for 13 years, the last three with the New York City public school system as a resource room teacher. The program is implemented by Werner with her resource room students and the students from the other resource rooms in the school. It has the support and approval of the administration, but it could function without support. It is not necessary to have any additional staff involved, nor are paraprofessionals required. Staff members are very supportive and cooperative because the program does not interfere with their classroom instruction. It enhances it.

Materials and Resources

Materials include seeds, bulbs, sprouts, mature plants, plastic soda bottles, milk cartons, plastic egg cartons, glass jars, packaged potting soil, humus, vermiculite, peat moss, and builder's sand. A selection of books about plants and their care is also necessary. There should be a supply of postcards, envelopes, and stamps for writing letters to request seeds, seed catalogs, posters and other free materials.

Outside Resources

Field trips to botanic gardens and the Gateway Environmental Study Center, and visits from resource people from the Cornell Cooperative Extension are valuable additions to the program activities.

Overall Value

Students develop responsibility, and socialization and writing skills. *Seeds of Learning* provides a vehicle for the willing application, and consequent expansion, of skills taught in class—such as researching and compiling facts and data. These applications cover diverse curriculum areas, including communication arts, mathematics, science, art, and social studies. The program has had vitalizing effects on learning, in that participants have found from their experiences that "book learning" has a host of stimulating and real-life applications. "The mental health aspects of the program are particularly significant," says developer Werner. "The care and responsibility for a living thing sensitizes children to their relationships with peers and adults. It provides a success-oriented experience for each participant."

More Information

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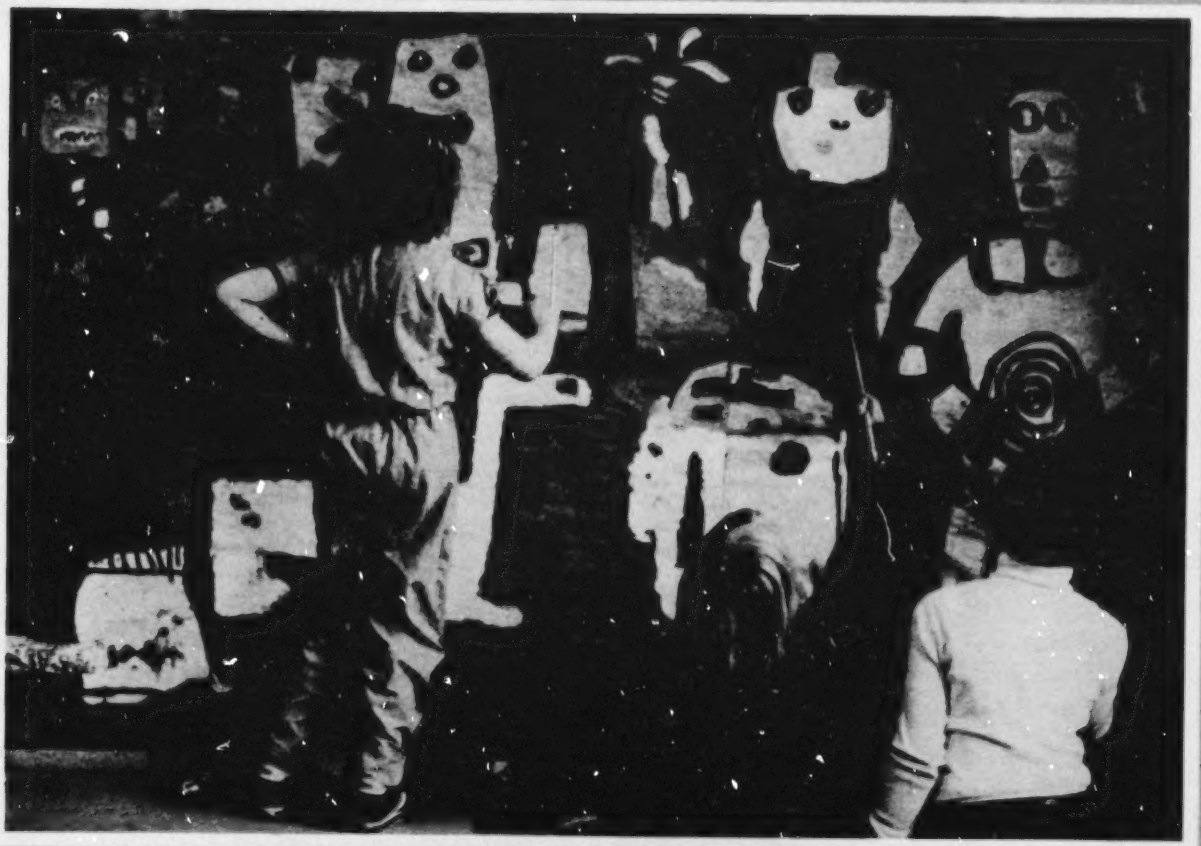
Special Education Supervisor: Sally Rudetsky

The Fifth Anniversary Convention closed with a feedback session. Convention participants were given the opportunity to discuss with IMPACT II staff ways in which the program works best and suggestions for improving and strengthening the network. Pictured below from left to right: Ellen Dempsey, Executive Director; Deidre Meyerson, Assistant Director, Public Schools Program; Ellen Meyers, Director of Independent Schools Program; Dale Mann, evaluator of IMPACT II, Teachers College, Columbia University; Anna Louise Bruner, Director, Houston, Texas Program; Margot Jones, Coordinator of Staff Development.

John Cole

Social Studies



Elementary School Social Studies

Robots Come Alive

Penny Abrams

The Program

Robots Come Alive is an interdisciplinary project in which children construct two- to five-foot, three-dimensional models of robots, go on to compose robot stories, build a robot community, and learn how to wire a simple circuit so that their robots light up. The imaginations of the children are captured by the use of robots. On a deeper level, they are working with the powerful early childhood developmental themes of family and reality versus fantasy. Their involvement extends to awareness of the community, the study of community workers, and conceptualization of the present and future role of robots in their lives. This is done through writing (stories, dialogues, plays, poems, books), reading, construction art, mathematics, and social studies.

Robots Come Alive covers the first grade social studies curriculum within the context of creating a community, studying the family, and talking about the children themselves. In the communication arts area, a robot vocabulary list to include words like "robotics," "droid," and "cyborg" has been developed, and a robot dictionary is being composed. Many children are now well into the writing process. Children are writing their own robot tales, creating dialogues with robots, creating robot mystery stories, and composing short robot poems.

The Students

Twenty-one children from a first-grade gifted and talented program are involved. The unit can easily be used with average students in grades one through three. The children work as a whole class, in small groups, and on individual projects.

The Staff

The program was developed and implemented by Penny Abrams, an instructor in the gifted and talented program, who has 19 years' experience as a teacher. Although the teacher can manage the program alone, it is helpful to have the aid of other adults (i.e., parents) in the classroom at the time the projects are being worked on. The coordinator of the gifted and talented program supports *Robots Come Alive*.

Materials and Facilities

Robots Come Alive is conducted in a self-contained classroom. Supplies needed are a classroom library of robot books—fiction such as Herb Mack and Ann Cook's *Robot Visits School*, and non-fiction such as R.A. Montgomery's *Your Very Own Robot*. Art supplies required include foil, boxes, cardboard, odds and ends (found materials such as nuts, bolts, buttons, ribbons and wire clothes hangers), glue, tape, paint, markers, and paper. Most of these supplies are readily available in a school.

Outside Resources

In the course of this unit, guest speakers (authors of robot books, parents) were called in to discuss their books, ideas, and illustrations. Commercially prepared robot toys, robot constructions, and robot games were purchased from toy and department stores. While these are nice to have, they are not required ingredients.

Overall Value

"Children have learned the similarities and differences between a robot and a computer, between humans and robots," says developer Abrams. "Through this theme, many children in the class were able to express themselves orally, visually, and aesthetically in ways I've never seen before."

More Information

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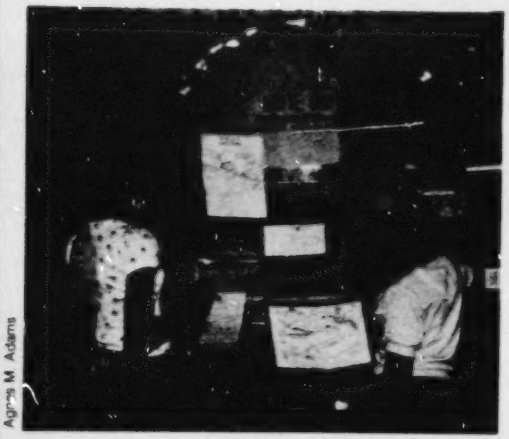
Estelle Seittelman

The Program

Write On! provides a social studies hands-on unit in cultural geography that traces the development of the alphabet and the origins of writing from the pre-historic period to Roman times. Students participate in enrichment activities that comprise a differentiated curriculum and multi-level tasks based on Bloom's *Taxonomy*. Learning packs consisting of informative instructional sheets that correspond to task cards are used. These packs provide background information on cave art, Mesopotamia, Egypt, Greece, and Rome. Auxiliary alphabets are also provided. Then a variety of activities is initiated: drawing cave art pictures using paper bags; writing about ancient life by describing pictures; making papyrus and writing on it in hieroglyphics; solving and/or creating modern-day picture writing; and creating a personal fraternity using the Greek alphabet. In each unit, trips to art galleries and museums, completion of various relevant charts, activity games, and the technique of establishing application to the present are exhaustively used. Braille, semaphore (Flag) and ASLAN (American sign language) alphabets are also studied.

The Students

This unit was designed as an enrichment activity for a gifted and talented group of fifth graders. With some modifications, it can be adapted for grades four through junior high school. The learning packs were split up and used by single students as well as by groups. A two-period, wind-up evaluation of the children's work coordinated all the learning packs with the basic theme, the origin of writing. The culminating production was a book of children's work that was completed in approximately two to three weeks of daily one-period meetings.



Agnes M. Adams

The Staff

The program was developed by Agnes Adams, a sixth-grade classroom teacher who has taught all levels in her ten years of teaching in both private and public schools. She also has a life-long love of geography and social studies. No facilitators other than the classroom teacher are necessary. The program has the full approval of the principal.

Materials and Facilities

The regular classroom is the most appropriate working situation. A large table and wall space for hanging work would be a great asset. The library should be available for research. Appropriate copies of *National Geographic* pictures representing each culture would be a valuable aid. Copies of some worksheets must be reproduced for independent work.

Outside Resources

Field trips to two museums are planned. The Cave Art Museum and the Metropolitan Museum of Art are the only outside resources needed.

Overall Value

"Any hands-on approach to learning about ancient cultures (or about anything, for that matter) that is also fun to do would certainly be a preferred way of learning for any student," contends developer Adams. "To discover the roots of our alphabet in activities that are geared to success will be a learning experience that will stay with the child forever." The differentiated curriculum approach allows each child to learn and produce with success. Along with information, a positive self-image is also gained.

Elementary School Social Studies

Write On!

More Information

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Elementary School Social Studies

African Influences in Puerto Rico

The Program

African Influences in Puerto Rico is a program that examines an African community in Puerto Rico called Loíza Aldea, and the historical trends that were influential in its development. This program explores the four major anthropological theories that provide children with experiences in exploring human behavior. In the course of the program, children discover the ways in which a culture is transmitted from generation to generation. They make cross-cultural comparisons of human behavior, religious rites, and learning processes. They design charts and pictographs that exemplify the dynamics of the organization theory. Using a variety of mediums, the children construct a small-scale village depicting life as it now exists in Loíza Aldea.

The Students

Twenty-six students of average achievement level participate in the program, in a class that meets three times a week. The program can be adapted to any grade level and may be used with smaller or larger groups.

The Staff

The program was developed and is implemented by Lourdes Estrella, who studied at the Institute of Culture in Puerto Rico under the direction of Dr. Ricardo Alegría. The program has the full support of the administration.

Materials and Facilities

African Influences in Puerto Rico can be conducted in any self-contained classroom. Books, filmstrips, projector, rexograph machine, and basic art materials are required equipment. A display area for children's projects is essential.

Outside Resources

The program benefits from field trips to El Museo del Barrio and the Bilingual Resource Center. Storytellers, musicians, and invited guests are an integral part of the study.

Overall Value

Easily implemented on any grade level, the program is highly motivating and develops an interest in human behavior. The children enjoy activities that expand their interests in the areas of reading, writing, and research skills. According to developer Estrella, "Through the use of multimedia materials and a variety of exciting and colorful activities, the children's creativity level has soared. Their understanding of the human experience will contribute immensely to the further improvement of community living."

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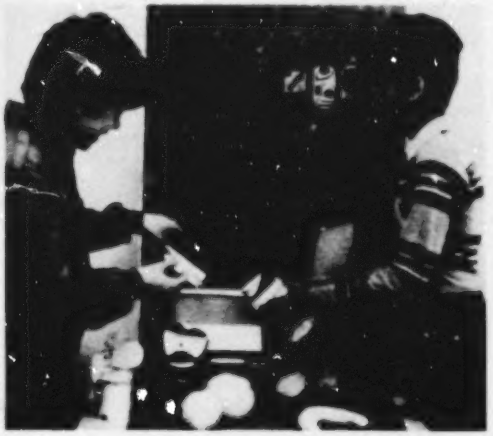
Telephone: 574-2391
Principal: Sheldon Roach



Doris W. Finkel

The Program

Mummification—A Hands-on Experience provides the students with a concrete method that introduces the study of Egypt in a dynamic way. In this project, the students use fruit to simulate the actual process of mummification, as practiced by the people of Egypt for 4500 years.

First, the students research basic information including the climate of ancient Egypt and the differences between natural and artificial mummies, and become familiar with vocabulary that pertains to the topic such as decay, preserve, bacteria, embalm, amulets, desiccate, sarcophagus, ba and ka. Included are important background concepts such as: Why was mummification important?; What was its purpose?; What part did mummification play in the Egyptian religion? Observation is an important part of the step-by-step process. The hands-on experience involves the actual embalming of a fruit, using ancient Egyptian techniques. Outlines are discussed. A written report is organized into three sections: introduction, process, conclusion. Correct techniques of paragraph writing are emphasized. The students are encouraged to evaluate the process and support their opinions. Experiences that dramatically complete the project include writing creative stories, and having an Egyptian funeral. The students compose prayers for the dead and bury their mummies.

The Students

The program has been used with the fifth grade for the last three years. The students meet twice a week, in groups of ten, and once a week as a complete class. They represent a wide variety of achievement levels. The project can be completed in a six-week period.

The Staff

The program was developed by Doris Finkel, who has been teaching at Manhattan Country School for six years. An integrated part of the fifth-grade social studies program, it is self-contained and can be implemented without outside help.

Materials and Facilities

The program can be completed in the classroom. Space is required for the mummies to dry out. A ditto machine is needed to produce the worksheets. Everyday materials are used. Each student needs a fruit, a jar with a lid, and sheets. The following chemicals are needed: salt, baking soda, cornstarch (represents the element natron), carbonate, sulfate, turpentine, and shellac. Also required are brushes, sawdust, magic markers, paint, kitty litter, containers, knives, spoons, bowls, and newspaper. Texts that are helpful include: Aliki. *Mummies Made in Egypt* (New York: Thomas Y. Crowell, 1977); Allen, Tony. *Traveller Book of Pharoahs and Pyramids* (London: Usborne Publishing Co., 1977); McHargue, George. *Mummies* (New York: Lippincott and Company, 1972); Millard, Anne. "First Civilizations," *Children's Picture World History* (London: Usborne Publishing Co., 1977); Sheppard, E.J. *Ancient Egypt* (London: Longman Group, Ltd.)

Outside Resources

Visits to the Metropolitan Museum of Art, Egyptian Galleries; Brooklyn Museum, Egyptian Galleries; University of Pennsylvania Museum, mummy exhibit, would be enriching to the program. Students are encouraged to use public libraries for source material and research.

Overall Value

This program serves as an exciting springboard for the study of the ancient Egyptian civilization. Says developer Finkel: "It provides a valuable technique for helping students make connections from the concrete to the abstract. The entire class participates in this fascinating activity. Equally important, it stimulates an ongoing interest in the study of another culture and serves as a tool in developing the skills to research, outline, and write an organized report."

Elementary School Social Studies

Mummification—A Hands-on Experience

More Information
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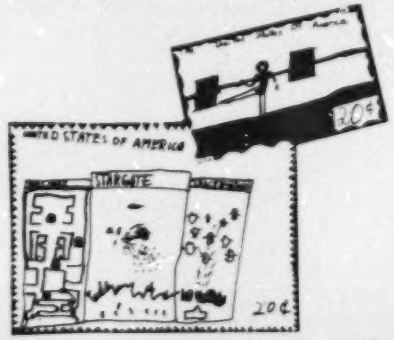
Director:
Augustus Trowbridge

Elementary School Social Studies

Stuck on Stamps

The Program

Stuck on Stamps is a progam that enriches the students' understanding of their own country as well as of foreign countries. In the beginning, the children are taught how to identify a stamp—commemorative, definitive, or airmail. They begin to observe and identify watermarks, perforations, country of origin, and the cost of each stamp. After these introductory sessions, the students design their own stamps. Some choose to make linoleum prints of their own personalized stamp. The class buys two stamp albums—one Scott Minuteman U.S. Stamps, and one foreign stamp album, both available from Scott Publishing Co. in New York City. Everyone enters stamps into their own or a class album, using adhesive hinges to attach stamps to the page. A club is established with the group's own name. (Last year's Pony Express Club gave way to this year's Sticky Stamp Club.) After many trips to the local post office, the classes can make their own albums. Classification can be in terms of interest, i.e., sports, space, animals, and art. The students trade with each other every week. In every Sunday edition of The *New York Times*, the children are directed to the stamp section. When a new stamp is to be issued, everyone writes letters to the postmaster for "First Day of Issues." Many times, a representative from the U.S. Postal Service will visit the classroom with a movie. Membership cards to the Benjamin Franklin Stamp Club and chapter membership awards often are part of the visit. The Postal Service has published excellent books; e.g., *The U.S. Stamp & Flowers*, a yearly explanation of all the commemoratives—stamps that celebrate an outstanding event, famous person or place—and definitives—square-shaped stamps that designate an animal, person, or inanimate object. One culminating activity has been making a pencil holder from a can, with stamps pasted on it that have been shellacked to produce a decoupage effect. Another is a large world map of the regions that are studied, identifying the country with a stamp along the border.



Allison Callaghan Young Soo Che

The Students

Thirty-two third graders are participating in the program this year. They meet once a week. This year's group, as well as last year's, consisted of gifted classes. The program could be adapted to many ages, in large or small groups, according to interest level.

The Staff

Joan Goldberg developed *Stuck on Stamps* with able assistance from the Postal Service. She has been a teacher of the gifted for the last ten years, and feels rewarded by the growth, intellectual development, and love of many children. Her program's success depends upon the teacher and the assistance of the principal. The secretary saves all the stamps that enter the school.

Materials and Facilities

Needed initially are blank pages, hinges, and stamps. That is all. As time progresses, it has proved advantageous to buy albums for the class; although classes can also create their own.

Outside Resources

Trips to a post office as well as visits from guest speakers representing the Postal Service are most helpful. Quite often these representatives bring films, e.g., "Stamp Collecting—For the Fun of It" and "Stamps—A Nation's Calling Cards." Many parents are collectors and are willing to come to the school to speak and to show the class their collections. Also, trips to the Hayden Planetarium, the American Museum of Natural History, and the Metropolitan Museum of Art make the children aware of the many exhibits that are reproduced in postal issues.

Overall Value

"The program is successful because of the appealing way in which social studies content is learned through the symbolism of the pictorial content," says developer Goldberg. Children learn to appreciate the heroes, events, historic places, artistic works, and wildlife in their own country, as well as in foreign countries.

More Information

Joan Goldberg
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Principal: Jack Zuckerman

The Program

We Learn to Earn develops the concept of what a business is by actively engaging primary grade children in a hands-on program that involves making and selling products. The children are highly motivated through a study of New York City and the career opportunities that are discussed such as retail clerks, accountants, and advertising copy writers. The students do research through the use of media materials, newspaper advertisements, and visitors to the classroom (parents). This leads to an awareness of the many aspects of running a business. Role-playing, reading, and mathematics provide the interdisciplinary approach. The students make various hand-crafted items; i.e., wool-covered hangers, key chains, greeting cards. They price them, develop an advertisement to be distributed to all the parents in the school, and run a sale during which they are in charge of collecting the money, making the change, and tallying the profits. Various possibilities for the use of the profits are discussed by the students, and value judgments are made concerning the best possible use for the money. Last year the students ultimately decided to benefit others as well as themselves by making a charitable contribution to the United Negro College Fund with half the profits, and using the remainder to divide equally among themselves. The program develops basic skills in social studies, mathematics, and communication arts, and also leads to a concrete positive understanding of the world of business.

The Students

The students are second graders, ranging in age from seven to nine. They are heterogeneously grouped in a self-contained room. The students' achievement levels range from mid-first year to beginning third grade. The program can be adapted to any grade, from second and up, with a class of average size.

The Staff

Barbara Gray and Beverly Pollock, team teachers, developed the program, which can operate without assistance from others. Both Gray and Pollock have about 13 years of experience, and have been team teaching for eight years. Pollock has been awarded a grant from District 29. The program has the support of the school principal.

Materials and Facilities

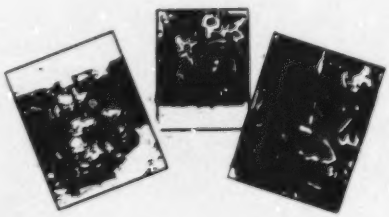
All the activities can be conducted in the classroom. A sale date must be set in advance, so that a large room is available for use on that date. Multimedia kits, such as Who Helps Us, BFA Educational Media, provide motivation and research tools. Newspapers are readily obtainable, and charts of advertisements may be mounted. Materials, such as metal hangers, wool, and scraps of fabric can be found in school, brought from home or purchased.

Outside Resources

Contributions from parents in the form of guest speakers who talk to the class about their jobs are extremely valuable.

Overall Value

The program allows the children to learn about the business world by actively engaging them in their own business venture. "The children gain knowledge from their own experiences," says developer Gray, "and get a better understanding of what business is all about. The children gain experience dealing with money in a real-life setting and working in a group situation."



Elementary School
Social Studies

We Learn to Earn

More Information

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P.S 251
144-51 Arthur Street
New York, NY 11413
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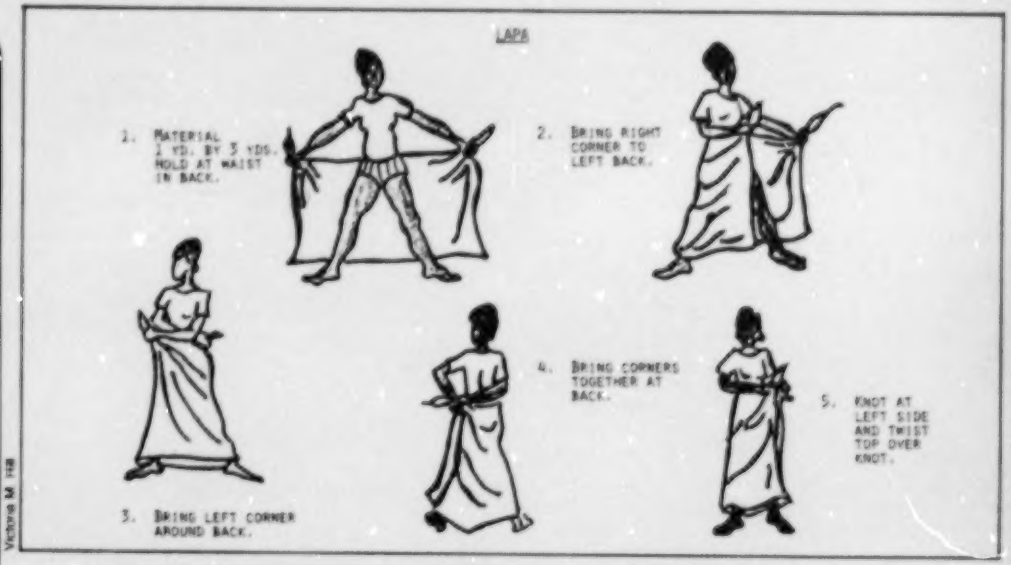
Principal:
Millicent Gormandy

Elementary School
Social Studies

East African Culture Through Language and Dress


LAPA
1. MATERIAL 1 YD. BY 3 YDS. HOLD AT WAIST IN BACK.
2. BRING RIGHT CORNER TO LEFT BACK.
3. BRING LEFT CORNER AROUND BACK.
4. BRING CORNERS TOGETHER AT BACK.
5. KNOT AT LEFT SIDE AND TWIST TOP OVER KNOT.
Victoria M. Hill

The Program

The purpose of teaching *East African Culture Through Language and Dress* is to make the children aware of other peoples' way of life through actual involvemsnt in two aspects of culture—language and dress. Youngsters are introduced to Tanzania, Kenya, and other East African nations through pictures as well as by simple globe and map study, locating the areas where Swahili is spoken. Simple greetings such as "hujambu" (Hello); months of the year "agosto" (August); parts of the day "asuhubi" (morning); counting "moji," "mbili," "tatu" (one, two three); and tribal chants are incorporated into meaningful conversation through the "hear, say, and repeat" method. More oral and phonetic work is stressed as opposed to written work. Along with learning elementary Swahili, the students learn to wrap a gele (headtie) and make East African garb. A culmination assembly presents youngsters in African dress, dramatizing a play in Swahili.

The Students

Sixty students from second through sixth grade are involved in this program, and are grouped according to age level. The second and third grades are combined in one 45-minute period, while the fourth and fifth grades are combined in another 45-minute period. Finally, the sixth grade comes in as a group for a 45-minute period. Each grouping meets four times a week.

The Staff

Victoria M. Hill has her Master of Arts in African history from St. John's University. She has been the coordinator of African and African-American history and culture for four years. She has set up African studies exhibits and conducted parent workshops in the area of African studies.

Materials and Facilities

Swahili readers, dictionaries, and grammars are put out by the Berlitz School of New York and are essential to the instruction. The program can be set up in a simple classroom setting.

Outside Resources

No outside resources are needed.

Overall Value

Developer Hill is convinced that "Through this program, youngsters gain a respect for the people of Africa as well as those of African descent. They realize that each race or ethnic group has its own culture that is unique and must be respected. Youngsters gain a broader perspective of world history and culture."

More Information
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The Program

Movement from Rural to Urban examines a process whereby students can generate a product through their own brainstorming, planning, researching, and direction. It is student-centered and process-oriented; the educator's role is mainly one of arbitration and goal clarification. In this particular instance, the production of a movement piece illustrates the differences between rural and urban lifestyles. The type of product does not necessarily have to be limited, however, to movement. Other vehicles might be a play or a film; the focus is upon the divergent production of imagery through figural, symbolic, and semantic contexts. Cognitive strategies such as organization, synthesis, and evaluation are more of an aim than the final product.

The Students

This approach toward learning is interdisciplinary and can be used with any area of study—in fact the type of project pursued by the students can be determined by them (preferably if they are a bit older) or the teacher. This type of project can be done with nine-year-olds through high school-aged students, and has been used with multi-aged classes ranging from students with learning disabilities to those considered gifted. This is a long process, generally involving meetings twice a week for approximately two months, but it is well worth the time spent.

The Staff

The program has been developed by Robert Imber. Depending upon the type of project attempted, various support staff persons would be helpful. For example, this particular exercise involved the help of a co-teacher, to assist with the videotaping. A movement specialist could help with methods of dance notation, a musicologist with selecting appropriate music, or a playwright with staging techniques.

Materials and Facilities

This type of program can be implemented anywhere. No particular materials are necessary—in fact, the lack of specific materials can act as a creative stimulus. All that is necessary is an area of study (a vehicle), and we all have more than our share of these.

Outside Resources

Examination of the world around us.

Overall Value

Students can appreciate experiences from a cognitive point of view, and it is important to do so. "However," says Imber, "if these experiences can also illustrate the interrelatedness of various disciplines, involve kinesthetic experiences, and be student-generated, they are more likely to be enjoyed and recalled." The merging of these concerns can have synergistic qualities whereby students learn to approach problem solving in a positive spirit, acquiring critical thought as an internalized process.

Elementary School Social Studies

Movement from Rural to Urban

More Information

Robert Imber
Dalton School
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New York, NY 10128
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Headmaster:
Gardner P. Dunnan

Elementary School Social Studies

Consumer Awareness

The Program

Consumer Awareness is a program that helps children become better consumers. They create packaging for imaginary products ("Garlic Crunchies," "Goon Gum," "Jumping Toothbrush"); they study advertising such as exaggerated language, use of famous people, and peer group pressure, and become more aware of persuasive methods; and they evaluate their merchandising campaign. The program involves all curriculum areas and can be adjusted to meet the needs of an individual class.

The Students

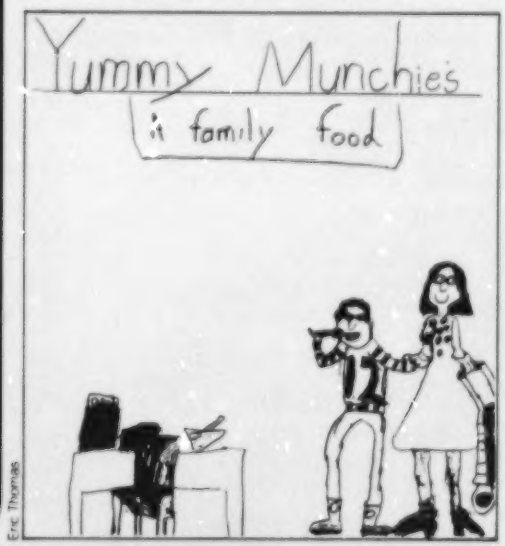
At present, the program is being implemented with 18 second graders in a self-contained classroom. The children are verbal and generally academically capable.

The Staff

Rose Mazur teaches this unit to her class but relies on the cooperation of other staff members who allow her students to conduct polls and surveys and to interview other students and faculty. The librarian is of great assistance in finding materials in the school library.

Materials and Facilities

Current media, such as television, films, tapes, and records, are used. Current newspapers and magazines such as *The New York Times*, The *Daily News*, *Good Housekeeping*, *People*, and *Penny Power*—any print media that have advertisements—are also program resources. The filmstrip series, *Learning to be a Wise Consumer* (Guidance Associates; Harcourt Brace Jovanovich, Inc.) is an excellent resource. Children plot graphs and write advertising copy to accompany the packaging of their selected product. A teacher would require ample supplies of graph paper and writing paper, and any materials needed to design and produce the package. Basic art supplies are also necessary.



Eric Thomas

Outside Resources

The school library and the Grand Army Plaza Library are used for research. Parents who are in related fields—photographers, editors, models, retailers, shippers—are invited to visit and discuss various aspects of the program with the children. An editor from *The Wall Street Journal*, a creative director from an advertising agency, illustrators, art teachers, and packaging consultants have been participants.

Overall Value

"*Consumer Awareness* helps children become creative, discriminating thinkers and consumers," says developer Mazur. "It develops mathematics skills by teaching standardized units of measurement, graph plotting, and the role of banking. It increases vocabulary; e.g., profit, copy, overhead, retail, wholesale. And it fosters creative writing by preparing either serious or "tongue-in-cheek" copy that uses figurative language and idiomatic expressions." The program encourages learning the use of color and interesting forms through designing a package for a product. Discussions of various careers involved in the advertising industry become pertinent. There is experience in using polls and surveys to decide the sales success of a product. Motor coordination, necessary in cutting and pasting samples of advertising from magazines, is developed, as is the self-confidence required to conduct polls and present individual creative pieces to classmates.

More Information

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701 Carroll Street
Brooklyn, NY 11215
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Headmistress: Bongsoon Zubay

Cynthia Spalding

The Program

Structures and Shelters is a program that helps children develop competence in science, social studies, mathematics, communication arts, and art. It engages them in hands-on experiments with the construction of various structures and shelters, both common and uncommon, from city skyscrapers to African huts and igloos. Through experiments in simple building projects, children observe and engage in the study of properties that relate to structures and shelters—strength, materials, shapes, forces, connections, flexibility, and gravity. The interrelatedness of human-made and natural structures is also studied as a source of inquiry and learning, as children look, for example, at eggshell shapes, vegetable shapes, feather shapes, and animal shelters. Children learn about various forms of shelters and, through classroom discussions and individual elementary research, they are able to choose a shelter they would like to construct—either singly or as a group. Children learn to appreciate the various structures and forces that exist, and the decisions that must be made in construction work. In journals and shelter booklets, they record their progress and list interesting facts about structures they are studying. Examples of individual work are available, and a bibliography can be provided upon request.

The Students

In the implementing of this program, there were 26 heterogeneous second and third graders of average ability in a self-contained classroom. The program is, however, suitable for grades two through six.

The Staff

Structures and Shelters was developed by Cindy Niedoroda, a teacher with 11 years' experience and special training in curriculum integration. Though support was not necessary, it was available and much appreciated. A student teacher helped implement the program; parent volunteers could be similarly used.

Materials and Facilities

A classroom that can provide open display for ongoing work is helpful. Many simple materials for construction are used: paper, cardboard, paints, crayons, straws, tape, glue, scissors, clay, styrofoam, and matt board. Wood construction tools and scrounged lumber pieces give greater depth to the exploration of construction media. *A Children's Museum Activity Book: Milk Carton Blocks* (Little Brown and Co., Boston 1979), *The Houses the Indians Built* by Sigmund A. Levine (Dodd, Mead and Co., New York 1975), and other special children's books on construction possibilities are useful for ideas.

Outside Resources

Neighborhood walks to observe shelters and structures, and visits to the Museum of the Native American and the American Museum of Natural History, are essential and useful. Visiting architects or urban planners can describe their work.

Overall Value

Developer Niedoroda comments, "Children are empowered to become builders and manipulators of materials—skills that give relevancy to learning. They see meaningful relationships between materials, forms, and structures. They are involved in social studies themes by studying a particular component of culture—namely, the shelters people build." An awareness of community is fostered, as well as the development of powers of observation and writing. A sense of history and the cultures of history is engendered as children also learn about, and build shelters from, the past. Children become confident of their ability to manipulate materials and to turn ideas into three-dimensional projects.

Elementary School Social Studies/ Science

Structures and Shelters

More Information

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River East Elementary School
116th Street and F.D.R. Drive
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Telephone: 860-6033
Director: Shelley Price

Elementary School Social Studies

From the Inside Out: Teaching Research Skills with the Focus on Theme Murals

The Program

From the Inside Out has evolved from a concern to teach children in a way that will so affect the learning process that their response will come from the innermost self. This is made possible through the production of a series of large-scale interdisciplinary study murals which incorporate the spectrum of learning skills; communication arts, reading research, organizational skills, abstractions, group process, sequencing, charting, diagramming, use of varied mediums, oral presentations, and the transposing of materials into other forms for reflective learning. As a result of these productions, students gain insight into concepts such as issues of war and peace, world hunger, civil rights, race relations, cultures and traditions, animal and insect lifestyles, and the discovery of the wheel and the arch. Other pivotal projects are used in support of the mural studies to broaden students' interests and to heighten motivation. These include a peace quilt (early American style,) a wishing tree (a values project), a class book (Early American), slide studies, guest speakers, habitats, and live animal studies. This program culminates in an individual study project at the end of the year which each child develops independently. It calls on the strengths the children have gained through the mural study program. Students have an opportunity to research and develop an interest of their own and present it to their classmates, using as many different communications skills as possible. An indication of the program's effect on the children is apparent when, in the following year, they inquire: "Are we going to have another independent study this year; because I already know what I'm going to do."

The Students

This is a two-year program for a vertically grouped third- and fourth-grade classroom of 18 children. It can be used with any size group and can be expanded to include older children. Any part of the program can be used to fulfill specific needs of the classroom.

The Staff

Diane Pillsbury, now in her eleventh year at the school, developed this program with the support of the administration, but such support is not essential to its success.

Materials and Facilities

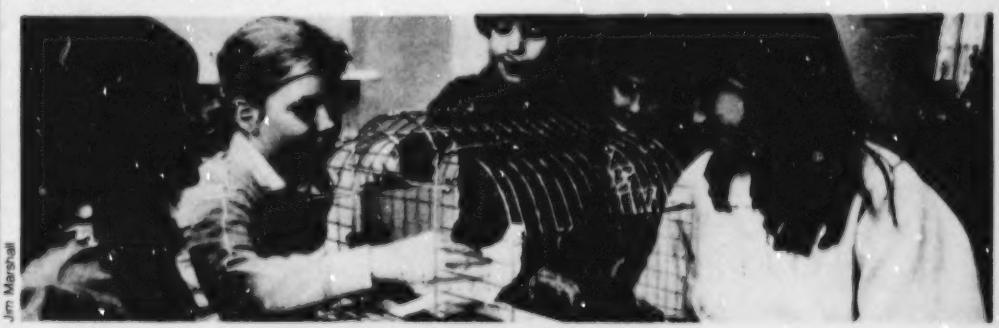
The program functions in a classroom setting. Although there is a classroom library, a school library would be sufficient. Any wall space will do for mural display. Art supplies and paper are necessary. Low-budget disposable materials such as cardboard boxes and newsprint can also be used. When possible, ditto machine, projectors, and cameras offer an additional approach.

Outside Resources

This type of program elicits interest from staff, guest speakers, parents, and other students. The nature of the program incorporates field trips and the use of public facilities such as libraries, museums, theaters, and parks.

Overall Value

The approach to teaching embodied in *From the Inside Out* covers all the traditional concepts while allowing children to experience the unusual. Developer Pillsbury feels: "It has had a powerful motivational effect on my class. I believe children must be allowed to come to the point of recognizing their own ability to create. Once you help the child find the key, you have set him or her free. To have watched this happen has been a great joy."



Jim Marshall

More Information

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Friends Seminary
222 East 16th Street
New York, NY 10003
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Principal: Joyce G. McCray

Marvin Terban

The Program

Celebrity Explorers personalizes the lives and times of explorers, using selected textbooks as a basis for developing social studies concepts, and communication arts and map skills. History comes alive for young children. After initial lessons on Marco Polo, Ferdinand Magellan, Hernando de Soto, or Vasco Balboa, to determine some of the facts about an explorer's life, the child becomes the explorer and is placed back in time, in the land of the explorer, facing his problems and gradually becoming aware of how to solve them. By writing their own ship's logs, letters home, booklets of tales with maps and drawings, or even a scene to be acted from the explorer's life, the children come to understand concepts about life in the past. Each explorer's life and times are used as background for the next explorer. By developing a timeline, the child learns to see who influenced whom, and what contribution each explorer made to the one who followed him. At the conclusion of the unit generalizations are made about all explorers, and games are played to match the explorer, his discovery, his country, and his time reference. The class works together on an "Explorer Mural" that is displayed for the rest of the school to see.

The Students

This is the third year that the program has been used successfully for third-grade students of varying achievement levels at Columbia Grammar and Preparatory School. Implementation takes from four to five months and can be modified to fit into other time frames. Classes consist of approximately 20 students each. However, this program can be effective in larger or smaller classes as well.

The Staff

Celebrity Explorers was developed by Eleanor Ripp. Ripp has taught elementary school for ten years, and has also been a supervisor of student teachers at Hunter College. She has trained teachers in music instruction for the Board of Education of the City of New York, and in the past she has developed curricula in music, art appreciation, and reading. This program has been implemented with the assistance of one other teacher, and it has the enthusiastic support of the principal.

Materials and Facilities

The program can be set up in any classroom. For best results, there should be adequate room to display an explorer timeline along a wall, as well as room for a bulletin board exhibiting the children's work. Each student needs his or her own textbooks, such as *Christopher Columbus*, by Mervyn D. Kaufman, Garrard Publishing Company, or books from the series, *Concepts and Inquiry: The ERC Social Science Program*, Allyn and Bacon, Inc., plus lots of paper and pencils.

Outside Resources

Although no outside resources are required to implement the program, trips enrich it. A play, such as "The Life and Times of Christopher Columbus"—or a trip to the Museum of the City of New York, with its miniature Fort Amsterdam—would be worthwhile.

Overall Value

"*Celebrity Explorers* is such a personal way to approach impersonal, distant events that it makes learning social studies easy and pleasurable," according to developer Ripp. "It is a way of putting the child in the driver's seat, rather than having him or her watch someone else do the driving." Teachers who are frustrated in their search for a way to approach history at the second- through fourth-grade levels can use this program, with its encouragement of active participation and its development of work-study, map, and communication arts skills.

Elementary School Social Studies

Celebrity Explorers

More Information

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Headmaster: Richard Sogbolan

Elementary School Social Studies

Media, Arts, Crafts and Self-Esteem

The Program

In *Media, Arts, Crafts and Self-Esteem*, listening to and viewing various stories about a particular subject lead to creative crafts and self-awareness within the confines of the school library, a place that now holds more than stories about other people and far-away places. First graders in this program are enlightened through discussions about themselves and their feelings. During the school year, topics such as being the new person in the class are presented to these first graders to stimulate discussion and self-awareness. The children make "Me" books that they continually add to, as the situation arises. The cover is shared by a self-portrait and a photograph. After exploring what they have in their room at home, and what they do when they are outdoors, they make illustrations in their books. "I feel good when. . ." is another page in their books. "This gets me angry" is also included. This is an ongoing reference to themselves that they can make public or keep private. They have begun to realize that feelings, good and bad, are experienced by all of us, and that we can choose our behavior. We feel pride and happiness when we feel good about ourselves. This project also gives the children pride in their "Me" book. They begin to use magazine pictures and various media, such as markers and paints, branching away from crayons. This arts and crafts project develops into an extension of themselves.

Barbara Tabor

The Students

Since the start of this program, approximately 120 children have participated. They are all first graders. They are of mixed ability, ranging from below-average achievers to gifted. The classes meet in the library twice a week, for 45 minutes each time. It is a program that can be implemented with all age groups.

The Staff

The program was developed by Barbara Tabor, a teacher with 13 years of experience, and with a background in library science as well as arts and crafts. It was implemented without assistance, although additional help is beneficial. The administration and parents at the school have been very supportive.

Materials and Facilities

This program is conducted in the school library. Paint, glitter, crayons, and other arts and crafts media are used to enhance the "Me" books. Filmstrips and stories such as Elberta Stone's *I'm Glad I'm Me* (G.P. Putnam, 1971) and Dr. Seuss's *Did I Ever Tell You How Lucky You Are?* (Random House, 1973), are chosen from the school library as well as from the very well-stocked instructional media library within the district. A large part of the motivation also comes from American Cancer Society filmstrips entitled "An Early Start to Good Health."

Outside Resources

Filmstrips from the American Cancer Society were very useful. Tabor also found a course entitled "Parent Effectiveness Training" extremely helpful.

Overall Value

The project "Me" book completed by the children has unearthed creativity as well as a deeper understanding of themselves. They have begun to be in tune with their feelings and are capable of dealing with them. The overall enthusiasm and positive reactions from the children have been rewarding. "This is merely a foundation on which to continue to build pride and understanding of self," says developer Tabor.

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Elementary School
Social Studies/
Science

Brooklyn Bridge Study

The Program

Brooklyn Bridge Study, as the name implies, is an in-depth study of the Brooklyn Bridge and the waterfront. The study begins with trips to the Brooklyn Heights esplanade; a walk across the Brooklyn Bridge; a visit to the Fulton Ferry Museum; a trip to the South Street Seaport and museum; and visits to other pertinent museum exhibits such as the "Great Bridge" exhibit at the Brooklyn Museum and the Brooklyn Anchorage. The children sketch on each trip, and discuss and write descriptive stories as follow-up. *The Building of Brooklyn Bridge*, by F. Wenderoth Saunders, is read by the classroom teacher during class meetings, over approximately a six-week period. Art projects such as painted murals, dioramas, a clay neighborhood, quilted fabric wall hangings, and numerous individual sketches of the bridge are generated. Scientific studies include the caisson study and experiment, which demonstrate concretely with water and a paper cup how air inside the caisson kept water out. Rock analysis and water sampling are possible offshoots. Geography units involve block-building and mapping of the classroom, school, square block, and surrounding neighborhood. A dramatic presentation for a lower school assembly program can be prepared as a culminating project of the *Brooklyn Bridge Study*. Also a unit on ship building and transportation can extend and enhance the study.

The Students

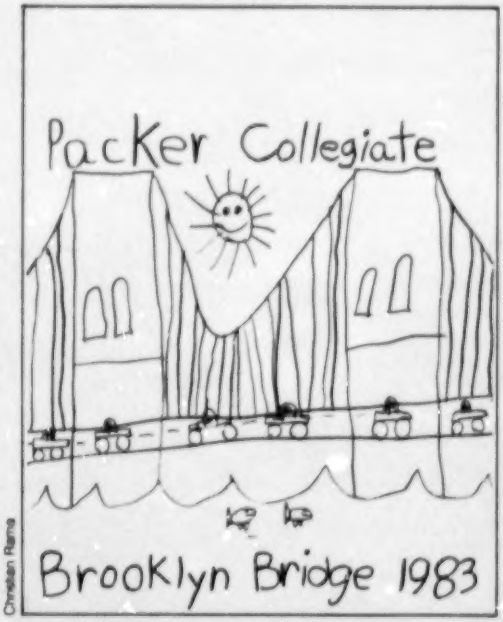
The entire second grade participates. Projects are usually done with small groups. This program is successful with children at any academic achievement level.

The Staff

The program is implemented by two head teachers and two assistant teachers.

Materials and Facilities

This study takes place in the classroom as well as on trips. Materials include art supplies and trip sketch books. A suggested bibliography includes *Abel's Island* by William Steig. (This wonderfully humorous account of a mouse stuck on an island is used as a lead to the bridge study.); *The Building of Brooklyn Bridge: They Said It Couldn't Be Built* by Judith St. George. (Brand new book, 1982, with excellent photos and good narrative);



Christian Rains

The Spider of Brooklyn Heights by Nancy Veglahn. (Lengthy, detailed description of the people and the times).

Outside Resources

Field trips as outlined above are invaluable, as is a viewing of Ken Burns' award- winning film on the Brooklyn Bridge.

Overall Value

Social studies becomes something real to the children as they are studying the Brooklyn Bridge in detail. They experience it in many ways in their daily lives—by crossing it on foot and by car, and by going under it on the subway. Developers Vassallo and Berman believe that "through this study, the children come to appreciate the bridge as they develop an understanding of their immediate environment and the interrelationship of natural and human-made structures."

More Information

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Elementary School Social Studies

We Are Where We Live

Carole Silver

More Information

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Headmaster: Peter Esty

The Program

We Are Where We Live is a program developed to enhance children's appreciation of the diverse cultures of our world, and their understanding that the way people live their lives is often the way in which they have adapted to their environment. They begin by learning the various components that make up culture such as what children will be taught and where teaching will take place; and then research, in detail, the way of life in a particular country. Along with their parents, they prepare personal displays to accompany their research and prepare ethnic dishes for sale at a fair. The fair is organized to display their research work and related "treasures" (e.g. toys, travel brochures, and clothing collected over the years by the children); sell the crafts and foods they have made; and hold a raffle of prizes they have secured from local merchants, friends, neighbors, and families. Many aspects of the curriculum are used: Mathematics—graphs, accounting, measurement; science—plant and animal adaptation, cooking, health; communication arts/social studies—geography, history, researching skills, report writing; art-crafts, decorations, visual examples for written work. As a result, the children see practical applications of what they have learned. The monies raised at the fair are used for an end-of-the-year ethnic luncheon for the grade; the initial outlay for the fair the following year; and the replacement or purchase of additional resource materials.

The Students

In 1982, 62 fourth graders, ranging from average to above-average ability, participated in our fourth annual fair. The children worked primarily in small groups, but there were many whole-class activities; and often, individual children chose to do library research instead of going to recess. Because so many aspects of our daily curriculum lend themselves to this program, we found ourselves preparing population and area graphs during mathematics; reading research materials during our regular reading period; preparing our crafts or foods during our special projects times; and devoting our communication arts periods to writing and editing our reports.

The Staff

The program was developed by Joan Wenger, who is a fourth-grade teacher. She has had extensive experience organizing fairs to raise funds for a variety of community projects including furniture for nursery schools and playground equipment for local parks. Wenger acts as coordinator for the program, which utilizes the talents of three or four fourth-grade classes. The head teachers of each class are responsible for the research aspects of the program for their individual classes, and for some specific phase of the fair itself.

Materials and Facilities

Because of the size of the group (50-70 children), we use the school gymnasium for the fair. Smaller groups might prefer a large classroom or some hall/classroom combination. Materials necessary for the fair include long tables for research displays and crafts, and for food sales; cooking facilities; serving utensils; paper and plastic goods; art supplies; ditto machine; and several hot plates or cardboard ovens.

Outside Resources

Class field trips could include any ethnic museum or neighborhood. Student resources which can prove helpful are the public library, United Nations, foreign embassies and consulates, travel agencies, airlines, and parents who are willing to be interviewed. Parents can help make ethnic dishes, suggest raffle prizes, and assist at the fair.

Overall Value

In addition to the research skills the children acquire, the organizational skills they develop, and the additional understanding they glean of what cultures are and why they are what they are, "the excitement and enthusiasm that this program engenders provide the group with such a positive attitude that I find them eager to work, ready to give up free time when necessary, and quick to help each other when individual problems occur," says developer Wenger. Cooperation and enthusiasm for the overall project, and individual pride in their personal research projects, are important life experiences. "In addition," Wenger states, "the meshing of students, parents, and school, cooperating toward a common goal, is an important fringe benefit not to be overlooked."

The Program

Mock Senate is a classroom simulation that replicates the process of initiating, considering, and passing legislation. Students are assigned a political party, choose and research a state, and draft bills that promote the interests of their states. Students meet by parties and form committees. (This year's committees have been defense, energy, budget, social programs, and foreign relations.) As legislation develops, committees hold hearings to consider the merits of bills before them. Other students appear as witnesses, and all senators participate in the questioning. Floor debates and votes are managed by the president pro tempore, who is elected by fellow senators. Chapters from a civics book are assigned and discussed to help provide background and structure for the senate, and weekly current events assignments provide much guidance and the primary substance of the senate.

The Students

Twenty eighth-grade students participated last year. The students, ranging from learning disabled, to average, to above average, conducted senate business (caucuses, hearings, committee meetings) on the average of two times a week over a period of four months—though this varied greatly throughout the year. The duration of the project and the frequency of the meetings can be greatly expanded or diminished to fit the needs of the group. For example, the class could contain one committee and consider one bill, or five committees and a dozen bills. The project is adaptable to any class size or age level (between grades seven and twelve). Issues can be relatively straightforward (handguns) or complex (aid to El Salvador), depending on the judgment of the teacher.

The Staff

Sam Brian developed this program with his eighth-grade class at Bank Street School. Various visitors, from within the school and outside it, have observed the senate in session, and the class had the opportunity to videotape several committee hearings this year. The program can be used by any teacher who is willing to get involved with his/her students in the current events area. No special background or support staff is necessary.

Materials and Facilities

Props and materials are simple: a gavel,

Sam Brian

senatorial name cards with party and state designations (for the desk tops when senate is in session), and desks that can form a rough circle are all that is necessary. The Harcourt Brace *American Civics* text is a reliable and helpful staple, though any civics book will do. The news media (principally *The New York Times*, the *Post*, *Newsweek*, television and radio) are indispensable and always available in the home in some form.

Outside Resources

The project can be enhanced with speakers, at the discretion of the teacher. People with special expertise (the school nurse, a teacher who understands tax deductions well, or a parent who works in a social agency) make excellent witnesses in hearings before one of the committees. The encyclopedia and atlas were used to research states. More persistent legislators found their way into the Columbia School of Journalism clipping file and The New York Times Information Bank at various times over the last year, as they prepared to testify at a hearing or question a witness.

Overall Value

American government (or civics) can easily become a study of something that is remote and fairly general. The question of how to pass a bill becomes rather more compelling, however, when the students have bills they wish to pass. Developer Brian comments: "Theoretical questions (e.g., What if the interests of one's state conflict with the dictates of one's conscience?) spring to life as students lobby, horsetrade, filibuster, and vote in the *Mock Senate*."

Junior High School Social Studies

Mock Senate

More Information

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Junior High School Social Studies

Social Studies Through Letter Writing

More Information
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Principal: Martin Drew

The Program

Social Studies Through Letter Writing generates student enthusiasm for the varied cultures and societies that exist in the world today. The students select a country they are interested in, such as Japan, France, or Australia, and write to a pen pal who lives in that country. The pen pals are obtained from the Student Letter Exchange, located in Waseca, Minnesota 56093. The students write about their exchanges with the foreign students in a newsletter which they publish monthly. Along with this, the class becomes a Peace Corps Partner with a community in a distant part of the world. In order to become part of this program, the class must promise to sponsor a worthwhile project. The project can range from building a water storage tank to helping to construct a school or hospital. The class then goes about fundraising the needed monies to complete its project. The Peace Corps will communicate the class involvement to the Peace Corps volunteer in that country. The Peace Corps volunteer contacts the teacher, and a cultural exchange program is arranged between the class and the community they are helping. Students learn about that community's problems and needs. They exchange information about the community and society by sending cultural packets. For example, the class may send pictures of themselves, their homes, their school, and neighborhood; a newspaper; an American flag; a subway map; and picture postcards of their city. The foreign students, in return, send a cultural packet that may include a photo scrapbook of their neighborhood and school, examples of their money, stamps depicting their country's history, and a flag of the country. The request for information that may be desired can be transmitted to the Peace Corps volunteer, who will attempt to fulfill your needs. A teacher interested in this aspect of the program may write to: The Peace Corps Partnership Program, 806 Connecticut Avenue, NW, Room 907, Washington, DC 20525. Tel. (800) 424-8580, Ext. 227 or 277.

The Students

The students in this program are 14 to 15 years of age. They are selected from two eighth-grade classes, and are average to above-average in achievement level. The classes meet four times a week. The program will lend itself to sixth-to-ninth graders, with a change in style if needed. This type of program can be used with large groups, as well as with small units such as clubs.

The Staff

The program was started by Donald H. Cole, a teacher with 15 years of experience teaching social studies. Cole was the recipient of the Global Economic Award in 1980. The program receives support from the principal and assistant principal. However, it can be implemented without school assistance.

Materials and Facilities

Use of bulletin board space is needed to display the letters and photographs students receive from their pen pals. The cultural packets should also be displayed—flags from foreign countries, letters, and photo albums.

Outside Resources

There should be follow-up trips to the Chinese Museum, Metropolitan Museum of Art, Yeshiva University Museum, and the Hispanic Society of America. Guest speakers, as well as films about the countries, are useful and productive. For example, Cole has had a Peace Corps representative talk to his class and has shown a film on the Peace Corps.

Overall Value

Says developer Cole: "Social studies is a living and breathing subject. The students must be shown that what they are learning within the textbook exists today. What better way to accomplish this than to have pen pals from the countries actually being discussed in class." This program allows the students to use all their mental cognitive abilities. They read, they write, and they use their creative ability in making projects to send overseas. A teacher who might be looking for a way to gain the students' attention could implement this project. The letters and cultural packets are excellent forms of reinforcement.

The Program

Babylonian Civilization Through Cuneiform teaches the basic elements of the Babylonian language so that students may further understand and appreciate the complexity and varied content of the civilization developed in the Tigris-Euphrates Valley by the Sumero-Babylonians, more than four thousand years ago. Students are introduced quickly to the syllabic and pictographic nature of the Babylonian script. From this point, basic elements of grammar are introduced. Group discussions and individual assignments explore various aspects of Sumero-Babylonian life including mythology and customs, in order to encourage an appreciation of the literature, science, art, and law developed in Mesopotamia during the period 2500 to 300 B.C.

The Students

Thirty-four students in an above-average ninth-grade class participated in various aspects of this program. Ideally, it could be implemented with any ninth-grade or high school class, as part of the world studies curriculum.

The Staff

The program was developed by Richard S. Tomback, who has been teaching social studies for the past 19 years. He has a background in the history, languages, and culture of the civilizations of the Ancient Near East.

Materials and Facilities

All that is needed is a regular classroom with an overhead projector, filmstrips, duplicating machine, and introductory text in Babylonian Cuneiform.

Outside Resources

Trips to museums and Near East centers of the Metropolitan area universities are invaluable to the success of the program.

Overall Value

"Students have been literally awed by the amount of material made available to them," says developer Tomback. "Their appreciation of the complexity and diversity of the past, their 'cultural ancestors,' has been immeasurably reinforced." Many pupils inquired about additional learning materials even after their projects had been completed.

Junior High School Social Studies

Babylonian Civilization Through Cuneiform

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Bernard Fishenfeld

High School Social Studies

Teaching Values Through Law Studies

The Program

Teaching Values Through Law Studies attempts to expose students, who generally have a predisposition to be cynical about the legal system or "law and order," to famous Supreme Court decisions such as Mapp vs. Ohio and Gideon vs. Wainright. These decisions are contained on microfiche. Students learn how our judicial system works and influences their lives. By becoming eyewitnesses to landmark cases, they also learn the circumstances behind the actual decisions. They develop a certain self-discipline in learning to think things through and to avoid sloganeering. Many students develop a greater tolerance for ambiguity and complexity in life after evaluating these cases. In addition, students are encouraged to participate as good citizens and as "good samaritans" and to deepen their understanding and concern for civil liberties and due process of the law. The students use the microfiche machine as a tool to read about such controversial topics as: abortion, affirmative action, capital punishment, double jeopardy, First Amendment rights, freedom of the press and libel, minimum wage laws, obscenity and pornography, parochial school cases, Presidential powers, self-incrimination, unreasonable search, and wartime powers. The students rotate the use of the microfiche machine and, in each case, compare their views on the nature of the arguments and the fairness of the Supreme Court decision. Students are given a teacher-designed pretest to identify attitudes towards the law, police, judges and the legal system in general.

The Students

Thirty-five students from the tenth grade, who enroll in "Introduction to Law," an elective under the auspices of the social studies department, participate each cycle. They meet five times a week for 45-minute sessions. Achievement level is average and above average. The program can be adapted to other age groups, and can be done with smaller groups. Larger groups in excess of 35 students could be accommodated; however, the smaller the group, the more effective the equipment during the present time limits of the class sessions.

The Staff

The program was developed and is implemented by Paul Kantrowitz, acting assistant principal of the social studies department and the law studies coordinator for the school. He expanded the program from one class to seven, and is presently creating a Law Studies Institute. At the present time, the program is implemented with classroom teachers. Criminal, civil, and family court judges, prosecuting and defense attorneys, police officers, and other volunteers from the legal system have come in occasionally to lecture. The program has the full support of the principal and administration.

Materials and Facilities

One microfiche machine (Bell & Howell ABR-610 Reader/Printer) is needed, to be used in the school library. Law cases are available from *The New York Times* for classroom use.

Outside Resources

Supervised trips to local courts and law offices can be helpful, as can guest speakers who lecture on the legal system.

Overall Value

Developer Kantrowitz says: "The *Law Studies* program is successful because it provides relevant material that encourages students to improve their critical thinking skills. At the same time, it develops attitudinal changes that are fully appreciated when the students enter the adult world to become productive citizens."

More Information

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Principal: Carl Berlin

The Program

Stock Market Analysis Research Training (SMART) assists average and advanced students in the program to analyze critically the forces of stock market interaction, at twice the depth of those not participating in the program. By way of introduction, students are taught two lessons on supply and demand and two lessons on the stock market. They are then tested and divided into academically heterogeneous groups of approximately six members. Each group is enrolled, for a fee of $5.00, in the "Stock Market Game," a computer simulation of stock market investments conducted by Buffalo State Teachers College. Each team participating in the simulation is given a hypothetical $100,000 to invest in securities traded on the New York or American Stock Exchanges. Teams mail their orders to the computer in Buffalo. They may buy or sell "short" or purchase stocks on margin, paying "interest charges" for "monies borrowed." In conjunction with this simulation, the program requires each student to analyze four securities and to make recommendations to the group. Students prepare reports tracing the recent history of their corporations, their corporations' problems, the potential for growth, and dividend payments. Following instructional guidelines supplied by the teacher, students research the information—using varied professional analyses and financial reports obtained upon request from Sony, General Motors, and other corporations.

Students also complete a prepared log sheet to facilitate the recording of vicissitudes in stock prices and market climate, as well as economic, political, and social developments that may affect the price of their stocks. They make oral recommendations at after-school meetings. Written annotated recommendations are discussed at 15-minute sessions on Fridays. At the conclusion of the ten-week program, students submit a 10-15 page "Stock Analysis Report," and take a comprehensive examination on the stock market and the forces of supply and demand.

The Students

One hundred and eighty students from the tenth grade participated in this program Six 40-minute periods were spent inaugurating the program, and two 40-minute periods were devoted to evaluation. Students also met for 25 minutes after school and 15 minutes on Friday, during each of the ten weeks the program was in session. At the conclusion of the program, students who had participated scored a statistically 14% higher on relevant examinations than did those who had not been enrolled. The program can easily be adapted to the study of economics in the eleventh and twelfth grades.

The Staff

This program was developed by J. Harris Nierman, Ph.D., New York University, who has taught at Francis Lewis since 1966. Nierman has received grants from the Ford Foundation, The New York State Education Department, and the National Endowment for the Humanities. He has written scholarly articles and reviews as well as a term paper guide, a four-part sound filmstrip on the Middle East, and sections of the new Global History curriculum. This program has the support of the assistant principal for social studies. It can only be fully implemented with support for funding the computer linkup and the duplication of educational materials.

Materials and Facilities

Students follow printed instructions and complete blank charts and forms supplied by the staff. They use: *The New York Times, Moody's Analysis Sheets, Standard and Poor's Reports, Wall Street Journal, Barron's,* and other individual corporate reports. Work is completed at school and at home, using the telephone.

Outside Resources

Students utilize the facilities of the Flushing and Jamaica branches of the Queensborough Public Library, as well as the Queens College and St. John's University libraries. *Moody's Analysis Sheets* and *Standard and Poor's Reports* are donated by the institutions that produce them.

Overall Value

"This program provides students with an exciting opportunity to simulate investment in the stock market, at the same time that they learn to evaluate the influence of economic, political, and social forces on an open market system," comments developer Nierman. "Students enrolled in the program not only participate in a thoroughly enjoyable learning experience but, more important, learn to use critical thinking techniques and to apply them in oral discussions and written reports. No other program of this scope is presently available to New York City high school students."

High School Social Studies

Stock Market Analysis Research Training (SMART)

More Information

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Special Education
Social Studies

Celebrating the Tricentennial of Queens

The Program

In *Celebrating the Tricentennial of Queens*, resource room students gather and acquire an oral and a visual history of their school and of the community in which it is located. Via tape recorders and cameras, the students organize and develop the information into written form, make posters from photographs, and construct dioramas. The program begins with an explanation of oral history. Students learn that every person is important in its making, and discuss the roles their parents play through their work or as volunteers in organizations. Also addressed are the importance of interpersonal communication and the techniques of asking questions. To compile information, students take walking tours and photograph people and landmarks in the community, and use the reference section of the public library. Old school records and attendance books provide additional information such as changes in street names. The students develop their own written history and present booklets, along with their recorded material, to the public library and to the school.

The Students

The program was developed to motivate the learning of children who have been assigned to a resource room. These children are two or more years behind in reading, as measured by the city-wide reading test, and the program attempts to raise their reading scores one month for every month of their involvement. The program was started in January 1983, with four students who are in the fifth grade and are in the resource room for two hours daily. This program is easily adaptable to all grades, from third through twelfth, and to all achievement levels.

The Staff

Ida Kopelson, the resource room teacher at P.S. 38, has developed the program. Over a period of 18 years, she has worked with children who are severely disturbed, autistic, physically handicapped, C.R.M.D.-Track IV (Children with Retarded Mental Development), and learning disabled. She also has a Ph.D. degree from St. John's University and is licensed as a school psychologist. She has lectured on special education at York College in Queens and helped train York College students in the field of special education. The program has the support of the principal.

Materials and Facilities

The equipment that the children use consists of tape recorders and cameras. Also needed are materials such as posterboard, magic markers, scissors, tape, glue, and pictures from magazines for making dioramas, charts, and maps.

Outside Resources

Scheduled trips to the senior citizens center of Rosedale, the American Legion Post, stores and churches, and visits with neighbors were the sources of taped conversations that were compiled into an oral history of Rosedale. The photographs were used to make a visual history of Rosedale.

Overall Value

There was a dramatic change in the children's attitude toward learning. Instead of being passive, they are actively engaged in the learning process. School has become vital, and their participation is self-motivated. "Through these activities," says developer Kopelson, "they have strengthened their abilities to write, verbalize, read, and think logically. The information is better retained; the facts are sequenced and interassociated to give better meaning. Their comprehension has helped them to develop into thinking and feeling individuals." Cognitive skills including analyzing, drawing conclusions, and deductive reasoning were developed, as well as auditory and visual perceptual skills. Good rapport was established between the children and the elderly citizens of Rosedale, and with other members of the community. The children had a natural ease of oral communication that revealed their self-confidence.

More Information

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Special Education Supervisor: Anna V. Quinn

The Fifth Anniversary Convention ended with a lively discussion about how the network could be strengthened. Pictured below, Phillip Seymour, 1981-82 IMPACT II Developer, offers his suggestions.

IMPACT II Review Committee Members

Mildred Beck
P.S. 106–C.S.D. 27

William Browne
Horace Mann-Barnard School

Stewart H. Cohen
P.S. 270–C.S.D. 13

Bettymae Cronheim
Midtown Ethical Culture School

Rosa C. DuCree
P.S. 155–C.S.D. 23

Joseph Ealone
Division of Curriculum and Instruction

Eilene Evans
P.S. 127–C.S.D. 20

Claire P. Fishman
Chapin School

Sandra Genzelman LaPeter
Literacy Center-Bronx

Sheila Gutter
John Adams High School—Queens

Harvey Katz
P.S. 19–C.S.D. 24

Denise Levine
Manhattan East–C.S.D. 4

Ronald Levine
P.S. 19–C.S.D. 24

Johanna Martines
P.S. 158–C.S.D. 2

Mary Beth McCarthy
I.S. 7–C.S.D. 31

Sheila McCauley
P.S. 158–C.S.D. 2

Jean Reeve Oppenheim
Friends Seminary

Rita Pochter
Canarsie High School–Brooklyn—Special Education

Sonia Rudder Harding
I.S. 59–C.S.D. 29

Phillip Seymour
P.S. 40–C.S.D. 2

Carol Schulhof
Packer Collegiate Institute

Bertha Spielman
P.S. 114–C.S.D. 27

Mary Spilotro
New York School of Printing—Manhattan

Phyllis Wallach
I.S. 246–C.S.D. 17

Nina Wasserman
P.S. 131–C.S.D. 15

Eliot Weiss
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Debbie Zlotowitz
Churchill School

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